MASSACHUSETTS AGRICULTURAL COLLEGE

ESTABLISHED IN 1861

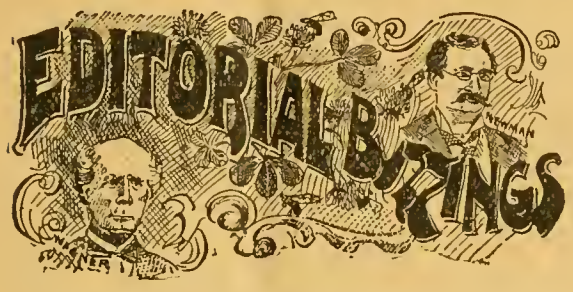
THE AMERICAN

BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., JANUARY 5, 1893. NO. 1.



Senator Hilton is what we shall have to call our friend Geo. E. Hilton now, as he was elected to the position of Senator of the State of Michigan at the last election. It is indeed an honorable office, and bee-keepers will be glad to know that they have such able representatives of their interests in the Legislature, as are Hon. R. L. Taylor and Hon. Geo. E. Hilton. We don't care what color a man's politics may be, so long as he does not fear to always stand up and be counted on the side of the right.

"Lovely Gleanings" is what we said after reading the number for Dec. 15th, which was something of a holiday number. It well deserves to be called the illustrated bee-paper of America, as almost every issue contains such beautiful pictures. May its subscription list become longer and longer, and its "shadow ne'er grow less," is the New Year wish of the old AMERICAN BEE JOURNAL for our Brothers Root.

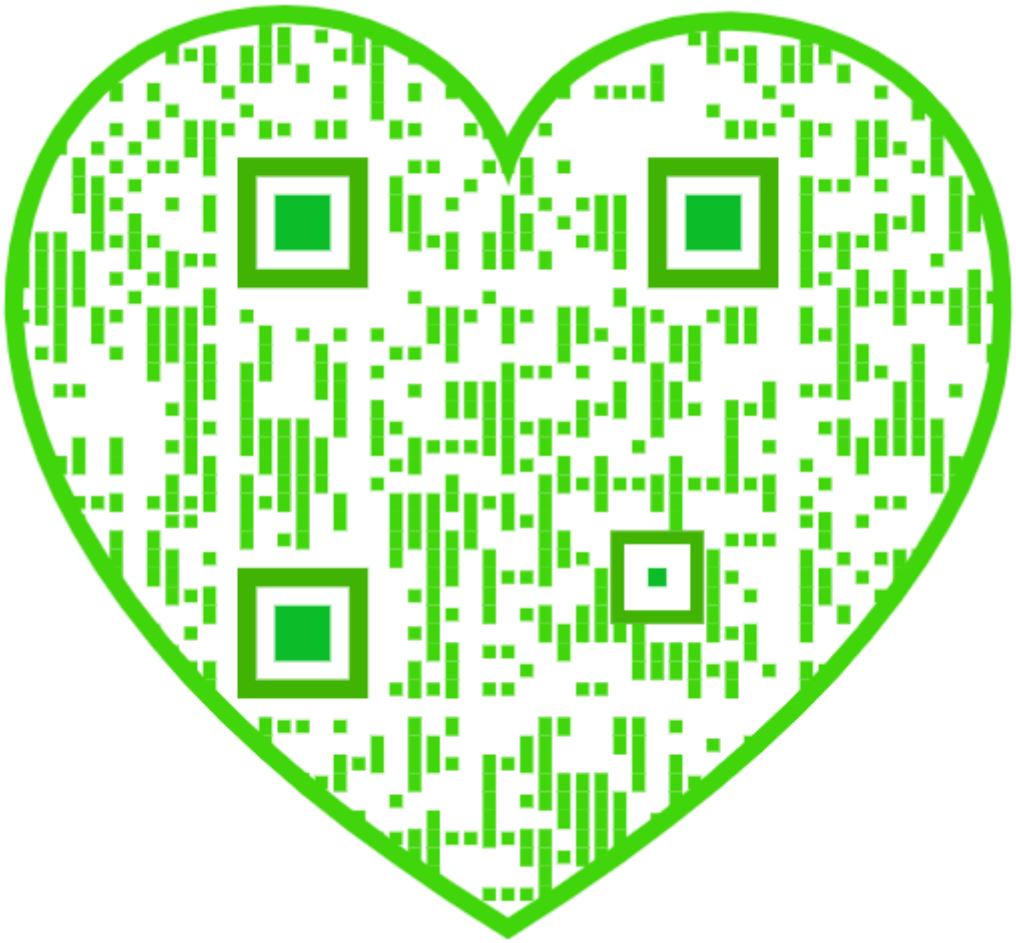
"Bees and Honey"—page 5.

The Time for Reading is now at hand, and in order to be equipped for all operations next spring in the apiary, you should "digest" one or more of the excellent bee-books, as well as the weekly "viands" brought to you in the BEE JOURNAL. We would refer you to our complete book-list on the third page of every number of this paper, where you will find everything that heart or mind could wish for in the way of standard and practical bee-literature. When renewing your subscription, order some good book that you can refer to as a sort of "dictionary" while reading the BEE JOURNAL.

On page 20, Mr. Doolittle has an article just packed with excellent advice for bee-keepers to heed during the winter season. Read it, and then profit by it.

Thirty-Two Years Ago this month the AMERICAN BEE JOURNAL was born. With this issue it begins its 33rd year. Many have been the changes that have taken place within its history, covering nearly a third of a century. Numerous and valuable have been the improvements from time to time that have resulted from the efforts of those who have labored for the advancement of the pursuit of apiculture.

Upon the pages of this first-born of American bee-papers have been recorded the investigations and discoveries of a people whose lives have been unselfishly



devoted to searching for the best means by which every man's table might bear upon it a pure sweet, whose health-giving properties might bless all its partakers with a happier and more grateful life.

The culture of bees and the best methods by which their product may be temptingly placed before the eye of man have enlisted the most hearty co-operation on the part of men and women in almost all stations in life. The keeping of bees for the production of honey has grown from a pleasurable avocation to one of the most useful and necessary, as well as important, industries in the agricultural development of our country. That the AMERICAN BEE JOURNAL contributed much to placing this pursuit upon the high plane which it occupies to-day is unquestioned; though in these latter years a few other periodicals have aided in the work first begun by the BEE JOURNAL through its lamented and honored editor—Samuel Wagner.

As in the past, so in the future, the old AMERICAN BEE JOURNAL will endeavor to lead, and it hopes to merit the continued support of all the honest-minded and truth-loving devotees of this fascinating and ennobling pursuit.

With all the lessons and experiences of the past from which to profit, and feeling assured of its ability to press into newer and richer fields of apicultural usefulness, the AMERICAN BEE JOURNAL to-day begins the march of another year, inspired by unnumbered opportunities for proving itself a help and a blessing to all its thousands of readers.

Bro. Hutchinson tells the story of himself in the December *Review*. He shows how he tried to look when at the age of 18 years, and also how he looked without trying at the age of 36. Those 18 years almost illustrate the theory of evolution, though Bro. H. had that same honest, straight-forward, whole-souled look when less than half as old as he now. When looking at his later picture, one hardly knows whether to say "a professor," "a preacher," or "a soldier." He might be mistaken for any one of them, or all. His own story is a good one, and we hope soon to condense it for the benefit of our readers. That December *Review* is a good one. Bro. Hutchinson merits all the success with which his paper is meeting.

The Officers Elected at the recent meeting of the Illinois State Bee-Keepers' Association at Springfield, are as follows:

President—Hon. J. M. Hambaugh, of Spring.

Vice-Presidents—1st, J. Q. Smith, of Lincoln; 2nd, Mrs. L. Harrison, of Peoria; 3rd, Peter Miller, of Belleville; 4th, Geo. Poindexter, of Kenney; 5th, C. P. Dadant, of Hamilton.

Secretary—Jas. A. Stone, of Bradfordton.

Treasurer—A. N. Draper, of Upper Alton.

Those wishing to have their names enrolled as members for 1893, will, by sending their fee of $1.00 to the Secretary, receive the coming report, as well as the report for 1892.

We hope to publish the report of the convention in a short time.

Mr. Orange Judd, the eminent and widely-known editor of the *Orange Judd Farmer*, died at the age of 70 years, on Dec. 27, 1892. He was the founder, and for 30 years the editor, of the *American Agriculturist*. We published his biography with portrait in the BEE JOURNAL for Sept. 15, 1892, page 363. He will be mourned in myriads of homes where his name has long since become honored and revered. The AMERICAN BEE JOURNAL deeply sympathizes with the family in their sad bereavement.

Read our great offer on page 5.

Bee-Keepers' Union.—The following is the General Manager's 8th Annual Report, for the year 1892:

At the close of another year, it is my duty to review the work of the National Bee-Keepers' Union, and offer some comments thereon.

The influence of such an organization, and the help which its moral support renders to its members, have been demonstrated many times during the past year, and such is but a repetition of the past 8 years of its history.

"Great deeds cannot die;
They with the sun and moon renew their light
Forever—blessing those that look on them."

The limits allowed to this Report will compel the greatest brevity. and so I must enter at once upon the facts, without any further preliminary remarks.

Early in the year the city council of Miami, Mo., was petitioned to expel the bees from the city limits. An ordinance was passed and the work begun, but the influence of the National Bee-Keepers' Union was so great that the city council dared do nothing more than thus to make itself "the laughing-stock of the world."

In April, malicious hatred worked up a case against Mr. H. D. Davis, in Bradford, Vt., and threatened to prosecute him for keeping bees there. The village trustees passed the law declaring bees a nuisance, but they dare not inforce it. Copies of the Decision of the Supreme Court of Arkansas, officially deciding that "bee-keeping is not a nuisance," were freely distributed among the Trustees and those in authority, and Mr. Davis was allowed to continue to keep bees there, as he had done for 13 years before. An envious neighbor made the trouble, but he was soon squelched by public opinion, which had been created after reading the documents of the National Bee-Keepers' Union.

Down in Tennessee, in Hill City, John F. Haeger keeps bees. His neighbor raises grapes, but found them rotten because of the very rainy season, and concluded that the innocent bees had done the damage. He threatened to spray them with arsenic, to destroy the bees. He was informed that it was a dangerous thing to do, for some of the poison may get into the surplus honey, and humanity would suffer by its consumption. He was further told of the existence of the National Bee-Keepers' Union, and that its special work was to protect its members from such malicious folly. He went home to think about it, and the next day came to Mr. Haeger and apologized for his abuse of the bees and murderous intent. Mr. H. wrote thus to the General Manager: "Stick another feather in the Union's cap." Surely, its moral influence is as potent as its financial backing.

Iowa next came into line. John Foulkes, in Cascade, sued his two neighbors, who kept bees, to compel their removal. Among other foolishness he claimed that "the bees swarmed around his premises, shut out the light of day, and kept his house in darkness." Possibly, the bees had stung him near the eyes, and so had shut out the light of day to him personally!

This is about on a par with the ignorance of the fellow who declared that his neighbor's bees ate up his peaches, and made a meal of his young ducks!!

The bee-keepers, Messrs. Wyrick and Hunter, were members of the Union, and the General Manager took charge of the case and employed an able attorney to defend it. The case was submitted in August, on *ex-parte* testimony, by agreement, the affidavits being very numerous on each side. The judge refused to grant injunctions, because he said it would "interfere with a business which the Courts recognize as legal." The Arkansas Decision did it! Thus ended the bombast of John Faulkes, and his malicious slanders against the bees and their owners.

Out in California a member of the Union was threatened by jealous neighbors for keeping bees in National City. It was Mr. Arthur Hanson, and he applied to the General Manager, who dosed the city officials with the official Decision of the Supreme Court of Arkansas, that "Bee-Keeping was not a nuisance!" That settled the whole matter. Peace and quietness reigns there now.

But why multiply words? All cases of trouble submitted to the Union show the same result, and this part of the Report may well be concluded with the following from the pen of that staunch friend of the bees, Mrs. L. Harrison. She says:

"The Bee-Keepers' Union has done much to cause our industry to be respected and placed upon a firm foundation. It has taught evil disposed persons and corporations that the production of honey is a legitimate business. Its able Manager, Mr. Thomas G. Newman, of Chicago, is always on the watchtower, scanning the horizon, and on the least appearance of danger is on the alert with well-directed guns. He has caused the enemy to retract and apologize for malicious statements."

New Work for the Union.

For several months there has been much discussion in the bee-periodicals, about the Union assuming new functions. As no one is able to say whether it shall or shall not do so, it is now proposed to submit it to vote.

In order to act in a legitimate manner, here comes a motion from one of the Vice-Presidents. It explains itself:

"MR. THOS. G. NEWMAN,
General Manager of Bee-Keepers' Union:

I move you that the scope of the National Bee-Keepers' Union be enlarged, so as to include prosecutions, looking to the prevention of the adulteration of honey.

Yours truly, A. J. COOK."

This has been seconded by Mr. Ernest R. Root, and supported by a number of other members.

In order to submit it to the members, I have prepared an amended Constitution,

sufficiently broad to allow of the proposed new functions and any others which may hereafter come up. It vests in the Advisory Board the power to act on any matter in the interest of the pursuit of bee-culture, presented to the Union for its action. In this way immediate work can be done without waiting for a full vote of the membership. Of course, care must be taken to put into office its best and most reliable members, (a good selection can be made from the list of names attached to this Report, and such only are eligible to office.)

I desire that this matter should receive due consideration and would ask every member to vote. Let there be no spaces unfilled when you return the "Voting Blank," to be exchanged for a Membership Certificate.

The only changes in the Constitution submitted are in Articles IV and VI. Please read these carefully, and then vote FOR or AGAINST, as you deem for the best interests of the Union.

If the amended Constitution is adopted, (it takes a majority vote to do so) then the duties of the General Manager will be greatly enlarged, and it is nothing but *just* that he should have a salary. I would suggest that it be decided to make that salary 20 per cent of the gross income of the Union for each year — whatever that may be.

Some have stated that it was a mistake not to have done this at the start, and perhaps it was. This matter can, however, be adjusted now, and it is therefore submitted to vote *when* such salary should commence.

By paying a percentage as salary for the General Manager, there can be no risk. The more the gross income, the more work to be done, and the more pay for doing it. The more work done, the more prosperous will be the Organization; the larger its available funds, the more remunerative to the Manager. Let every member vote as he feels on this subject, by filling up the space devoted to it on the Voting Blank.

The General Manager can do a great deal to keep expenses down. Twice during the past year I have cut the attorney's fees down one-half, and during my administration have in this way saved many hundreds of dollars for the Union. The Manager should, therefore, have an interest in continuing this watchfulness, and practicing strict economy.

The Future.

The movement now on foot to add to the membership of the Union, after enlarging its powers and multiplying its work, may make such a change that the next Report may show from 1,000 to 5,000 names.

Each of the bee-periodicals have donated a page to the Union, to assist in gaining members for 1893, and a vigorous effort will be made to place it in a position to command respect in maintaining the rights of apiarists, as well as to prosecute the adulterators of honey who now seem bent on destroying the pursuit, if not arrested in their career of crime and madness.

Financial Statement.

Balance, as per last Report.....	$558.58
Fees from 404 members for 1892.	404.00
	962.58
Court expenses, briefs, printing, attorney fees, postage, etc....	339.50
Balance, Dec. 20, 1892.....	$623.08

The Union has engaged attorneys for the defense of several cases, the cost for which will have to be paid when the cases are reached on the docket.

Dues and Election of Officers.

It now becomes my duty to call for $1.00 for the coming year, as dues from each member. A Blank is enclosed to be used for sending it, and also a Voting Blank. Fill up all the blanks, and send to the Manager with a postal note or money-order for $1 in the envelope sent with it. It must be received by Feb. 1, 1893, or the vote will be lost.

Now comes the most difficult part of my Report. I have repeatedly stated that I ought to retire, and give place to a younger man, but the appeal comes to me from so many members not to think of such a thing, at least for the present, that I have called a halt,—to let "feelings" consult with "judgment" as to my *duty* in the matter.

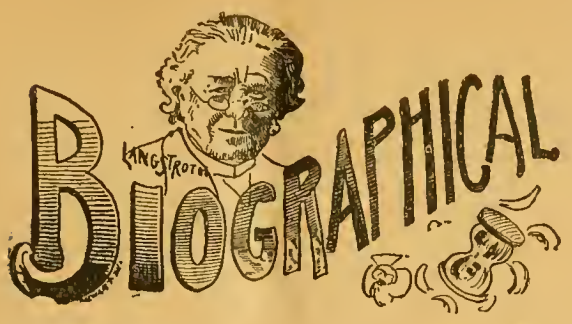
Mr. Root, in *Gleanings in Bee-Culture* for December 15, puts it in this way: "Mr. Newman's management of the Union has been so wise and efficient, that, if it will be out of the question for him to act as chief, he certainly should be retained as assistant or adviser, in the event of the change; then, if necessary, let younger blood do the work."

In reference to this proposition, I will say that if there is henceforth to be a salary attached to the office, so that I can hire that part of the work done, which would require more time and energy than I could command, I will consent to take the office for another year, if the votes give a *decided call* for me to do so.

THOMAS G. NEWMAN, Manager.

The foregoing Report was written to be mailed to all the members of the Union, hence the reference to the Voting Blank, return envelope, etc. The Voting Blank may be found on page 4 of this issue of the BEE JOURNAL, as may also the amended Constitution. We refer the reader to page 4 for further information.

Have You Read page 5 yet?



MR. BARNETT TAYLOR.

The following biographical sketch was kindly furnished by a friend of Mr. Taylor's, who knows him well:

The subject of this sketch was born in Green county, Pennsylvania, on May 8,

BARNETT TAYLOR.

1830. His father died when he was two years old, and he remained with his mother until his 16th year, when they moved to Quincy, Ills. There he lived nearly three years, one of which was spent in the army raised by Gov. Tom Ford to disperse the mob that killed Joe Smith in the spring of 1845, and drove the Mormons from their homes at Nauvoo in the fall of that year. Here it was he worked in a printing and book-binding office. Afterwards he moved to Green county, Wisconsin, in the fall of 1848.

At the age of 17 years he had mechanical skill enough to do the inside finishing for the Methodist church, which, when completed, gave entire satisfaction.

In the spring of 1849 he secured his first swarm of bees, which increased to many colonies in a few years.

Mr. Taylor remained in Wisconsin until 1856, when he moved to his present home in Forestville, Fillmore county, Minn. Immediately he purchased a colony of bees, which he increased to six the first season, and to 31 the second, and he sold $175 worth of surplus honey. His bee-keeping up to this time had been with box-hives, in the old style. At this point he secured "Langstroth on the Honey-Bee," and also obtained the agency for Langstroth's movable-comb hive, and began bee-keeping in a more scientific manner.

He at once became dissatisfied with the guess-work of the spacing frames, and being of an inventive turn of mind, invented the wire-end frame as now used in his hive, which he considers the most practical frame and hive in use since 1857.

During all these years he has given bee-keeping his best thoughts, and doing the (to him) delightful work with his own hands. He has increased his colonies until he has produced 26,000 pounds of fine comb honey in one season, and Mr. Taylor says that he has never had such an interest in his bees, or felt so happy in his apicultural work, as at the present time.

At the Taylor homestead there is to be found one of the best equipped apiaries in the West. There may be larger apiaries, but perhaps none so complete. There is everything with which to do, and harmony and cleanliness go hand in hand. It is a most lovely spot, nestling at the foot of the hill on the Forestville road, and surrounded on three sides by fine, old trees, not forgetting the massive pines which fringe the road leading to the place. From the apiary can be seen the north branch of Root river, winding in and out, leaping onward over the stones and through the willows.

Here, endowed with Nature's best gifts to man—grass, wood and water—is situated the Taylor apiary. Scattered upon the hillside are to be seen hundreds of Mr. Taylor's hives. One can see the handsome machine shop complete with steam power and cunning machinery; the wintering cellar, built upon honor,

thoroughly painted, and strong as a castle; also the curing house, and the much-talked-of house-apiary, all thoroughly painted and kept in excellent order. This order and harmony pervades everywhere and everything, even to his swarm-catcher.

His handiwork is to be seen in everything, including a bee-escape. We spoke of the cunning machinery. This was all invented and made by his own hands, and is so perfect in workmanship and finish as to cause remark by all who examine it.

Across from the apiary on the left are acres of as fine fruit as is grown in the great State of Minnesota. Apples there are of many varieties, and the evergreens and flowers go to prove that Mr. Taylor is an enthusiastic horticulturist, as well as a scientific bee-keeper, and has done much to advance the growing of fruit and the adorning of homes in his section with ornamental trees.

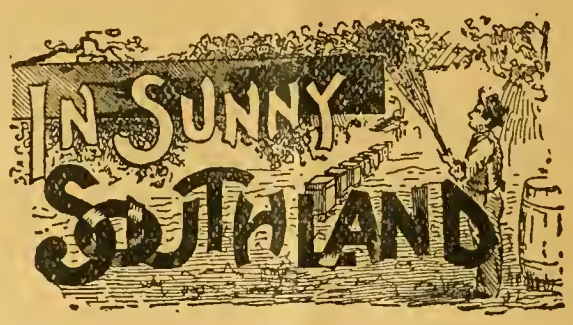
Mr. Taylor is one of the assistants to Hon. O. C. Gregg, in preparing the "Farmers' Institute Annual," issued once a year, and is the editor of the bee-department, as he is also the "Apiary" in *Farm, Stock and Home*, and for years has contributed valuable information to the several bee-periodicals.

In conclusion, Mr. Barnett Taylor is a good, plain, everyday man, honest from the ground up, and thoroughly trusted by all who know him. He would scorn to do a wrong, and has a pure heart and clean hands, honored by all, and admired by many.

The Programme has been sent to us, of the 4th annual convention of the Minnesota State Bee-Keepers' Association, to be held in the Lumber Exchange, corner of Fifth street and Hennepin avenue, Minneapolis, Minn., on Thursday, Friday and Saturday, Jan. 12, 13 and 14, 1893.

Latest and Prettiest Song now being sung on the stage, is entitled, "The Indian Summer Time." It is by the popular author, Will L. Thompson, of East Liverpool, Ohio. The price is 40 cents. Send the author half price, and you will receive a copy.

Don't Fail to read all of page 5.



CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Bee-Keeping and the Home.

DEAR READERS:—As I sit at my desk this drear day, wondering what I could write or say that would be most likely to interest you, my mind falls upon home; and while I expect to be as original as possible, in all my writings, please excuse me if I make extracts at random from something I have read, in order to make my meaning more clear. I expect to use this department to advance bee-culture, at the same time it is necessary to mention our homes occasionally, as bee-keeping and our homes are very closely related. It is the desire and design to furnish, through the medium of this department, a place for honest discussion and an interchange of views for all the bee-keeping fraternity, and as its name implies, to those of the Sunny South especially.

I know of no way in which greater benefit can be derived than by a comparison of our methods with those practiced by others, and I cordially invite every one to make such use of the pages of "Sunny Southland." I am surprised sometimes to find that the most commonplace of my daily duties are performed very differently by the bee-keepers and house-keepers of other sections, and I am always interested in diversified ideas and customs. It will not do for one locality or section to claim all the desirable points in everything. Each has much to learn from the others, and the best results are obtained by combining the good and discarding the evil from all sources. Strive for that equalization of plans and achievements which will insure to the benefit of the greatest number.

If you find that another method accomplishes a desired end more readily and satisfactorily than the one you have been using in your own house or apiary, adopt it rather than cling to the old,

simply because it is *your* way. Make "Improvement" the watchword of your home and your apiary. Improve your mind; improve your methods; and also improve your surroundings.

There are homes and apiaries in this Sunny Southland of ours that has been of a monotonous sameness for years. I need not say that these are not the happy homes, or prosperous apiaries. The great ocean must move in order to avoid stagnation, and homes and apiaries must advance, or they will retrograde. Let us bring the products of ingenuity to our aid, borrow and lend the results of experience until all shall know the pleasures and benefits of well-directed efforts in the art of bee-culture and proper living. Let every wife and mother of all sections fully co-operate in improving our homes, and systems and home surroundings, which means the apiary as well as the front yards and gardens, thereby uniting on a most effective plan for elevating American manhood and womanhood.

Again, I say, let us make it our first object in all things to bring the most good to the greatest number. What a change might be wrought in the conditions of mankind by the application of this rule! How unselfish and how far-reaching as compared with seeking the *greatest good* of a chosen few. There is a great deal of work to be done, and the fields are white with the harvest. What part will *you* take in this great and grand work of helping others? It may be by this poorly written article, or it may be by personal influence in your own home and neighborhood; widely different are the means capable of application, but there is work for all.

For whosoever shall give you a cup of water to drink in my name, because ye belong to Christ, verily I say unto you, he shall not lose his reward.

After proper home influences, we have a subject in whom each seed sown should bring forth good fruit. For such a person the scenes of nature and the incidents of life all teach lessons for the broadening of the mind and the development of the soul. Travel will open new avenues of thought at every change, and books will prove mines in which most precious gems are stored. All fellow creatures should be teachers, and each note of nature should awaken new and deeper instincts for good. In such a person happiness is ever present, and must light the way for all associates.

"Bees and Honey"—see page 5.

Drones for Breeding Purposes—A Large Question.

Query 852.—1. Would it be safe for me to rear drones from pure Italian virgin queens to breed from, with respect to the purity of the future progeny, since it was holden by a majority of those answering Query 843 (see page 598—1892), that there was no difference between eggs as they existed in the ovaries of virgin and impregnated queens? 2. If not, why not? 3. Would not the experiments of Mr. Doolittle and other prominent apiarists along this line, by mating pure Italians with black drones, and continuing to mate for two or three generations pure Italians to the lineal drone descendants of this first progeny or drone offspring of a pure Italian and black drone, in which case they obtained drones from pure Italians showing marks of impurity, show that the eggs in the ovary of a pure Italian virgin are different from the eggs in the ovary of a pure Italian that has mated with a black drone, the theory of parthenogenesis and its exponents to the contrary notwithstanding?—P. R. O.

Yes, don't do it.—JAMES HEDDON.

1. Let those who have differed on this point, answer this. 3. Yes.—JAS. A. STONE.

I don't know anything about it, but I believe the male has some influence on the offspring with bees as well as with other folks.—E. FRANCE.

All I have time and space to say now is, that I now hold the ground that the drone is affected by the mating as well as the worker, but may be not so much. —MRS. JENNIE ATCHLEY.

I see no good reason for doing so. Though it might be safe, I should prefer to follow only safe, well-known rules for breeding the purest and best bees, as well as other live stock.—C. H. DIBBERN.

1. This is a pretty tough question for a starter, but I will venture a *yes*. 3. The trouble is they cannot be *sure* how their queens were mated, whatever they may say to the contrary.—J. H. LARRABEE.

Drones from a virgin queen must of necessity be of the same "blood" as their mother; but the trouble which meets us here is, that many who have

experimented carefully claim that drones from a virgin queen are not virile. Such being the case, all queens producing worker-bees must have mated with drones from a fertile queen.—G. M. DOOLITTLE.

1. It would, but not as likely to get strong, healthy stock. Follow the course of nature as nearly as possible. 3. There are too many possibilities connected with these experiments to consider them a safe and infallible guide.—MRS. L. HARRISON.

1. I think so, if one could do it. Virgin queens do not always lay eggs. See my article on reproduction soon to be published in the BEE JOURNAL. 3. Yes, granting there is no mistake; but how can any man be sure that his queens are certainly pure with no trace of black blood.—A. J. COOK.

1. No. 2. Such drones would not prove fertile. 3. Such experiments, I believe, must conform to the above rule. The recent article of our worthy brother, G. W. Demaree, was just "my sentiments." The progeny of an Italian queen mated to a black drone, must of course be tainted.—W. M. BARNUM.

1. I do not think it would be safe so to do. 2. This opens up too big a question to be answered in this department. 3. The doctrine of parthenogenesis is proved to be true, still the doubt remains as to how far impure copulation affects the drone progeny. It is safe to breed from pure drones—why not do so?—J. E. POND.

1. I think not. There is no necessity for such a course, *even* if such drones were certainly fertile. In my late article in the BEE JOURNAL I have laid down the proposition that it can be demonstrated by experiment whether or not the drones of a *virgin* queen are fertile. Until this is settled, it is useless to discuss probabilities.—G. W. DEMAREE.

No; leaving the scientific discussion of this subject to naturalists, and to those who have time and talent for lengthy experiments, I will say to the propounder of 852, if he wishes good bees, not to depend upon drones reared from virgin queens, for the conditions necessary to the rearing of good drones will be greatly lacking in a colony that cannot rear worker-brood.—S. I. FREEBORN.

Parthenogenesis is not a theory. It is a fact. The assumption that the drone progeny of a queen are in no way affected by her mating, is theory that has not been proven, and perhaps cannot be. I think it likely that they are thus affected. The question is of little practical importance. It would not be profitable to rear drones as you suggest, even if they were as good as any as breeders, and you would have to rear drones from a number of such queens, in the average locality, to stand much chance of their being valuable under any circumstances.—JAMES A. GREEN.

1. I believe that drones from virgin queens, and even from laying workers, are virile, and as potent as any. I believe that the drone progeny of a queen is unaffected by the drone she has mated with. 3. I do not think that any experiments prove that there is any taint in the drone progeny of a queen from the drone she has copulated with. There are too many sources of mistake for experiments to be of much value.—M. MAHIN.

1. Yes, so far as regards purity, but generally, no. 2. Because drones reared from a queen that did not succeed in getting mated, and in a weak colony of old bees such as hers would be likely to be, would probably be wanting in vigor, and of a race wanting in good qualities generally. 3. The mating of bees for several generations is too uncertain a thing to base any scientific conclusions upon—at least in most localities.—R. L. TAYLOR.

We are told that in some cases in the human race, after a white woman has had a child to a black father, subsequent children to a white father may show traces of black blood. Something like this may hold good with bees, but for practical purposes I should be satisfied with drones from a thoroughbred queen impurely mated. But how could there in any case be impurity in "drones from pure Italian *virgin* queens?"—C. C. MILLER.

1. No. 2. For the reason that all experience has shown that the drones of virgin queens do not possess virility, and are therefore worthless; although theory and scientific deduction proclaim to the contrary. 3. Yes; but the difference is probably in the elemental life forces imparted to the eggs rather than in material substance.—G. L. TINKER.

Have You Read that wonderful book Premium offer on page 5?

Report of the Michigan State Bee Keepers' Convention.

Written for the American Bee Journal

BY W. Z. HUTCHINSON.

The Michigan State Bee-Keepers' Association held its 27th annual convention in the Senate Chamber at Lansing, on Dec. 13 and 14, 1892.

The meeting was called to order at 11 a.m., but so few were present, that it was adjourned to 2 p.m. When the convention came to order at the appointed time, the following members paid their dues:

T. F. Bingham, Abronia, Mich.
Prof. A. J. Cook, Agricultural College.
H. D. Cutting, Tecumseh, Mich.
James Heddon, Dowagiac, Mich.
Geo. E. Hilton, Fremont, Mich.
M. H. Hunt, Bell Branch, Mich.
W. Z. Hutchinson, Flint, Mich.
H. J. Kusig, Ravana, Mich.
Jacob Moore, Ionia, Mich.
J. A. Pearce, Grand Rapids, Mich.
R. L. Taylor, Lapeer, Mich.
M. White, Wheeler, Mich.
F. W. Wunsch, Lowell, Mich.

It will be seen that the attendance was very slim, but most of those present were leading bee-keepers, and for the number present there was an unusually interesting time.

First upon the programme came the address of Pres. R. L. Taylor, which was as follows:

The Apicultural Outlook.

I am impressed with the idea that the bee-keeping fraternity are just now in a state of unrest. I do not refer to that healthy state of activity so desirable and necessary to the attainment of the highest success, but to a thirst for "big things," a straining after the unattainable discontent with moderate returns, and a spirit of complaining at the recurrence of poor seasons. This condition is indicated by the desire so often expressed for non-swarming bees and non-swarming hives; by the rumors about comb honey made from sugar; by the fussing with self-hivers, and by the hints about abandoning the business.

Bee-keepers are not peculiar in being subject to this condition. We can all perceive it in farmers, even if we do not see it in ourselves among them. On the return of ordinary seasons after a period of unwonted prosperity, dissatisfaction and complaining, and new schemes, lift their heads in all directions. Individuals may indeed escape this disease, but there is no class but feels it on occasions in some degree. What is the cause of this unsatisfied and restless state among those interested in apiculture?

The golden age of apicultural invention is comparatively recent. The beginning of the movable comb, of comb foundation, and of the extractor are within the memory of many of us. Instead of considering these inventions as of themselves constituting a well-rounded period, many have been prone to regard them as only the beginnings of an age of brilliant discoveries to be continued indefinitely; but time has left those inventions 25 years away, and their results have all been gathered up and utilized, and the field is like a played-out gold-mine.

During all this time, of course, great progress has been made, but there has been no invention which can stand even second to any of those mentioned. This has been a disappointment, and this disappointment is giving utterance to the question heard on every side, What is to be the next great invention in apiculture? The thought is, that it is high time for another great stride forward. Apiculture is looked upon as almost equal to electric science as a field for discovery. How wide the difference is between the two it is hardly necessary to point out.

The electrician has the agent—electricity—and knowing its nature, capabilities and laws, he seeks in accordance therewith a medium by means of which he can compel it to accomplish a certain definite desired end.

The apiculturist's desired end is a wonderfully better bee. His object is indeed not very definite, but how utterly he breaks down in his means, and in his knowledge of the capabilities of the bee. He sends his money for descendants of this one's one-hundred dollar queen, or of that one's red-clover queen, or of the other one's non-swarming queen. He forgets that the bee has been undergoing for ages untold the sharpest possibl course of training calculated to develoe

in the highest possible excellence, that quality in which all bee-keepers delight —the ability to gather nectar. In that school the lazy, the delicate, the diseased, died of starvation or exposure, leaving no progeny to perpetuate their weaknesses.

The longest tongued industrious ones, having abundance of honey in the spring, were out of all proportion the most prolific in swarms, and so rapidly crowded those of shorter tongues and less careful, to the wall. How futile it would seem to be to attempt, by any even ordinarily careful methods, to improve bees thus effectually cleared of culls, when one great object of modern bee-culture seems to be to cuddle and strengthen the weak, and so enable them to propagate their failings.

Or, again, the apiculturist wants bees that have no desire to swarm, not reflecting that he might as well attempt to rear a race of doves with no inclination to mate.

Or, he looks longingly for the advent of the coming self-hiver, when he should know that no one would want them at the price it would be absolutely necessary for him to pay.

Or, having lost faith in every hoped-for discovery that seemed to promise easy wealth and relief from labor, and utterly discouraged, he turns as a last resource to sugar for comb honey, not perceiving the twin mountains his train is about to plunge into head on.

What a strange and impracticable class the fraternity of bee-keepers is, but it is much like other classes of humanity. Give one of them an inch, and he will take an ell, if he can get it.

You have a cow, we will say. You must be at expense for food for her for every day of the year, and a good deal of it if she is to yield any profit. You must feed and water her two or three times a day, or take her to pasture in the morning and fetch her again at night. You must milk her twice a day, and every year you must fuss with a calf for a tiresome period; yet, notwithstanding the almost constant care and labor, you are not calling very loudly for a self-milker, nor for a "non-swarmer," that is, for one that is calf-proof, however desirable such a cow might be; nor for a "self-hiver," that is, for a contrivance that would enable the calf to take care of itself.

But your colony of bees, which you need "milk" but once a year, and feed seldom if ever; whose progeny you can care for for good and all in five minutes, which comes so near working for nothing and boarding itself; it, forsooth, is felt to be a burden on account of the little supplementary labor necessary for its care, and because you are relieved of so much you are scarcely willing to be thankful for that relief, unless you can also be relieved of the little necessary care and labor remaining.

The moral is, that it is not wise to want the earth. By trusting too much to what the future may seem to promise, we are apt to neglect what the present actually offers. R. L. TAYLOR.

Prof. Cook—For once I must take issue with my good friend, the President. It seems to me that bee-keepers have a good deal to complain of during the last few years. They have not had very much of the earth of late, and *ought* to complain. When things go wrong, I think we have a right to be dissatisfied. We ought to at least be so dissatisfied that we are willing to try to find a remedy for our troubles. I believe in encouraging this kind of dissatisfaction. Then, again, I think the figure of the mating of the doves is too strong. Swarming is not mating. The mating principle is stronger than that of swarming. Some colonies do not swarm. There is a reason for this. If we could find out this reason, we could prevent swarming.

James Heddon—I agree with the Professor. I think it possible to breed a non-swarming strain of bees. I think that bees swarm less than in days past. To be able to have bees stop swarming would be one of the greatest advances that bee-keeping has ever made. I think that both the President and the Professor are right. I agree with the President, that bee-keepers ought not to become discontented. They should keep steadily on, and not be carried away by side issues. The dish must be everlastingly kept right side up; but there must be enough discontent so that bee-keepers will ever be striving to better their condition.

The Adulteration of Honey.

Mr. H. D. Cutting was down on the programme for an essay on the above subject, but he plead guilty to not having finished his essay. Several asked him to read what he had written. They wanted to see right where he "bi it off." He didn't have the few pages with him, but said he had been through the Detroit markets looking for adulterated honey, and found only two samples. Continuing, he said that "Two-thirds

of the peanut candy is glucose. The people demand it." As the boy said, "he wanted something that he could chaw." Pure sugar won't make such a candy. I would favor laws to prevent adulteration, only the laws are evaded.

Prof. Cook—I think the law all right. I have a right to mix glucose with honey, but I must say what it is when I sell it. As I said, I think the law all right, but it must be enforced, and this duty does not belong to one man; it belongs to the Bee-Keepers' Union.

Pres. Taylor—I think the law is all right, the trouble is in its enforcement.

Mr. Heddon—There is no trouble in enforcing the law against murder. People dislike to be murdered. There is no trouble in enforcing any law that the people care enough about to have it enforced. The trouble with enforcing the laws against the adulteration of honey is that the public care very little about the matter. They see the stories in the newspapers about adulteration, but they like the honey that they buy, it agrees with them, they are healthy, and some of their neighbors disagreeably so, and the result is that they don't know nor care whether honey is adulterated or not.

Now I am going to do a little prophesying about this matter of the adulteration of honey. You know that years ago I was abused and called unpleasant names, etc., because I plead for priority of location, and kept everybody out of my field. How is it now? Every man wants his field, and to encroach on the field of another is looked upon as unfair. I also opposed the idea of persuading everybody to engage in bee-keeping; again I was called selfish, but this making bee-keepers of everybody has been dropped, and bee-keeping has sought its level, as all business will. It has gone *below* its level, and will probably rise again. Now what I am going to say of adulteration will probably bring down another shower of abuse, but I am going to say that I think that the adulteration of honey has never injured bee-keeping; that it has rather been a benefit, and that in a few years all this hue and cry among bee-keepers over the matter will have died out. Yes, I know such views are the rankest kind of heresy, but they are my honest opinion.

Glucose was first obtained by those careful French and German chemists that have been held up to us as models. When its manufacture was first begun in this country, it is possible that it was somewhat crude, but as it has been made for years, I believe it is as healthful as the corn from which it is made. It was first used to mix with cane syrups. The manufacturers of the syrups raised a howl, they held up both hands, on one was painted "horror," and on the other "poison." They thought their business was going to be injured, and they sought to prejudice the public against the newcomer. But the demand for "blackstrap" increased wonderfully. It was learned that the stronger and blacker the syrup the more glucose was needed to bring it to the right flavor and color. The opposition from sugar syrup makers was soon over.

About this time the hue and cry was taken up by some of the bee-papers, and the same changes were rung over again with variations. Has the use of glucose in cane syrups injured their sale? Everybody knows that our "golden drips" are largely glucose, yet they buy them just the same. There is no attempt at concealment. Go into a store and ask for almost any brand of syrup, and inquire if it isn't part glucose, and the answer will be, "Certainly." The fact is, that those strong, dark cane syrups have been improved by the glucose, and everybody knows it.

It is the same with confectionery, as Mr. Cutting has said. It has been just the same with those who have adulterated honey. They have sought for the strong, weed honey, as it would bear more glucose. Time and again have C. O. Perrine and Mrs. Spades bought my strong fall honey and paid me a good price for it because it was the kind of honey that would be improved by the addition of glucose. They put their goods up in good shape, and could outsell me every time. They would get $9 a dozen for their glasses where I got only $6, and the worst of it was they were not troubled by the granulation of their product, while I had often to take back goods and re-liquify them. I once sold $1,700 worth of honey in jars to D. D. Mallory, of Detroit, and had to take back half of it and melt it up again. The people who sold mixed goods had none of this trouble. They sold to the same customers over and over again, which they could not have done had not *their* customers been satisfied. They made a market for our strong fall honey that otherwise would have been scarcely salable; they pushed its sale, and kept the markets supplied, and I say they have not injured the bee-keeper nor the public.

Now, if we are going to fight adulteration, let us decide why we fight it. If it does not injure us, then why fight it? Is

it because it is wrong? If so, then let us attack it where it is doing a thousand fold more harm—*in cane syrups and confections.* If glucose contains so much death-dealing damnation, what untold miseries it must be causing among the consumers of these two articles. Let's attack it there and save the prejudice that must attach to our own product from our continual harping on the subject.

There is one other point that I want to call attention to, and that is that a honey-producer with the right kind of bees and appliances and management, can always produce honey cheaper than he can buy glucose. All this talk about adulteration is the height of folly. No one is practicing it except the city dealers, and they do not injure us if they do piece out a poor season and keep up a demand that they have created. One or two good seasons will stop adulteration so completely that it will amount to nothing.

JAMES HEDDON.

Prof. Cook—Mr. Heddon may be right. I have tried to get bees to take glucose, and failed. I have tried mixing glucose with honey, and it certainly was not good. If the grades of glucose that Mr. Heddon has mentioned are really wholesome; if its addition to some grades of honey really improves them and aids in their sale, I have said my last word against adulteration.

The Professor agreed to bring samples of honey and glucose mixed, and submit them to a "tasting committee," and the discussion was dropped to listen to the reading of an essay by W. Z. Hutchinson, on

The Production of Sugar Honey.

The Secretary has asked me to answer the question, Shall we produce sugar honey? First, allow me to give a brief history of the discussion that has been conducted on this subject.

About a year ago the *Review* asked its principal contributors to say what should be done if the poor years keep on coming. When the turn came for the inimitable E. E. Hasty to speak, he said, "Produce sugar honey." I knew that this had been tried before, at least there had been reports to that effect, but it had been looked upon as adulteration. It seemed strange that so conscientious a man as Hasty should advise such a course. He then went on to defend his position. He said that bees *do* make honey in the same sense that brick-makers make brick. The nectar of flowers is almost wholly cane-sugar, which the secretions of the bees change to glucose, or honey. If by any artificial means we could gather a gallon of nectar and evaporate it, the product would be cane-sugar instead of honey. Mr. Hasty argued that it made no difference whether the bees got their cane-sugar from the flowers or from the sugar barrel.

I knew that bee-keepers had never looked at the matter in this light, and felt that the public opinion would not approve, but I also knew that prejudice and preconceived notions are things that can be overcome, also that our greatest blessings are often rejected when first offered. I had frequently fed sugar for winter stores, and the white combs were so dainty that I had often yielded to the temptation to cut out small bits and taste them. When I remember the smooth, oily, mucilaginous, twangy, honey taste of these bits of sugar-fed honey, I did not know but our Hasty friend was correct, and I decided to follow the course that had always characterized the *Review*, that of allowing everybody to be heard, even if their views were peculiar.

The article was published. I expected severe criticism, but not in the form that it came. Everybody seemed to jump to the conclusion that the feeding of sugar was to be done with the intent to deceive. Right here allow me to call attention to the fact that no one seems to worry for fear that basswood honey will be sold for clover, or that golden-rod will be palmed off for buckwheat, but all feared that sugar-honey would be sold for clover, or basswood. If sugar fed to bees becomes honey in the fullest sense of the word, then it *is* honey, and to sell it for honey no deception.

The criticisms that came in were published, when, to my surprise, such men as G. M. Doolittle, Wm. F. Clarke and C. W. Dayton came to my support. Their views were published, and the result was that red-hot letters on both sides of the question came pouring in. At such times men do not reason coolly, and sharp, unkind, cutting remarks are made, hence I thought best that the matter be dropped until the first excitement had worn away.

In a few months Prof. Cook published statements showing that chemical analysis, a class of forty students, and the best *Cook* that he ever knew could not detect the difference between sugar honey and floral honey. It seemed a good time to try to decide what honey

really is. I knew of no one better qualified than Prof. Cook to answer that question, so I asked him to write an article having for its title: "What is Honey?" That article was really an out and out defense of Hasty's position.

I then decided that the subject should be discussed; that our best men should say in the *Review*, if they would, what they thought of the practicability and advisability of the scheme. You who read the *Review* know what has been said, and can judge for yourselves as to what you had better do.

It seems to me that the first question to be decided is, When sugar is fed to bees does it *really* become honey? If nectar is cane-sugar, and its manipulation by the bees changes it to honey, then cane-sugar made from the juice of the sugar-cane evaporated, clarified and then made into a syrup, becomes *honey* when manipulated by the bees. It is true that each kind of blossom furnishes a flavor, and in some cases a color, that is distinctive. It is true that some kinds of blossoms furnish but *little* flavor. Willow-herb is one of this class. Sugar-honey has a kind of spicy, sugary flavor that is not at all unpleasant; but, as Mr. Doolittle has explained, enough of any kind of floral honey can be added to give the distinctive flavor if desired.

When I produced some sugar-honey, my wife was prejudiced against it. Now we use it on the table every day, and it is her choice. Knowing what I do now, if I should go into the market and buy a section of honey without knowing what kind of honey it was, and it should turn out to be sugar-honey, I should not feel that I had been cheated. In fact, I should prefer it to a great many kinds of floral honey.

How will the public look at the matter? Candidly, I don't know. How does it look at the use of comb foundation in section-boxes? There was once a great hue and cry raised against the use of foundation in sections. Many persons were not clean in the rendering of their wax. The old combs were allowed to stand until inhabited by disgusting worms, and the combs fouled by their excrements, then the whole mass was cooked up and the wax squeezed out. U-g-h-h! Who wants to eat the stuff? Then it was not the work of the bees, it was artificial. It was tough and leathery, and its use would ruin the honey market. Not one in ten of the honey-eating public knows anything, or cares anything, about comb foundation. Is it wrong to sell them honey made on foundation without telling them that it contains the "fishbone" made from beeswax that has contained disgusting worms, and perhaps been rendered by the use of sulphuric acid? Nothing is ever said of these matters, and bee-keepers think it is all right, simply because they have been so *educated.*

This matter of education is a great thing. If bee-keepers should take every means in their power to inform the public in regard to sugar-honey, it would be a failure so far as informing the public is concerned. See how we have worked to educate the public in regard to the difference between strained and extracted honey. When you use the word "extracted" in speaking to one not connected with bee-keeping, nine times out of ten the use of the word must be explained. The honey consuming public know but little, and care less about these things. They go into the market and buy what suits them. Very few people go to market to buy *basswood* honey, or *clover* honey, or *sugar* honey—it is simply *honey.* It looks nice, tastes good, satisfies hunger, and that is all they know or care. Mind you, I don't say that everybody is thus ignorant, but the *majority* are, and *will remain so.*

If we produce sugar-honey and tell our commission man that it is such, and ask him to so inform the retailer, and have *him* inform the consumer, somebody in the line will, forget, and the consumer will never hear of it any more than if we should take all this pains to have him know that it was basswood honey that we had sent to market, or that our honey was produced on foundation, and the *great* question is, Would such a course *wrong anybody?* I should be glad to hear it answered.

But to the question, Shall we produce sugar-honey? I say let us not put away the cup until we have tasted. I do not say to everybody, go to producing sugar-honey, but I do say that the subject is worthy of consideration and experimentation. Just take one colony next August, when the bees are gathering nothing, and feed them sugar, and let them build combs, or furnish them foundation, and then consume the product yourself, and you will then know for yourself whether you would be willing to have such honey sold to you for honey.

Many seem to fear that sugar-honey will be produced so cheaply that it will reduce the price. All seem to forget that sugar-honey will always cost as much as floral honey, plus the cost of the sugar and the labor of feeding. Where is the profit, then, in its produc-

tion? There is not so much as there is in floral honey, but is vastly better than to produce *no crop at all.* The advance of civilization has largely crushed out a large share of the honey-producing flora, and it is no wonder that the fertile brain of E. E. Hasty suggested what may eventually become one of the greatest blessings that have been given to bee-keepers.

To my mind, this is not a question of producing sugar-honey at a loss, or of its injury to the market, as I have no fears of either, but will its production and sale, in the open market, under existing circumstances, work an injury to my fellow man? If it will, no one is more anxious than myself to know it. I simply desire to know the truth—can man desire more?

W. Z. HUTCHINSON.

T. F. Bingham—Would sugar-honey be as good for sore throat?

Prof. Cook—I don't know. I don't know what it is about honey that does a sore throat good. Sometimes we want something that will produce irritation. In that case I should say basswood honey is what is needed.

Pres. Taylor—I would like to ask Prof. Cook, if he were producing sugar-honey, would he sell it as *honey?*

Prof. Cook—I should. I agree with the essayist in every point.

Jacob Moore—Suppose some one should ask me if my honey was clover, and I should say that it was sugar-honey, and then they should say that they could make their own sugar-honey.

Prof. Cook—When they tried making simply sugar syrup (for that is all that it would be), they would soon discover the difference.

T. F. Bingham—I think this discussion is unfortunate. There is a peculiar mystery about honey that is very fascinating.

Prof. Cook—We need not fear the results. Sugar fed to bees becomes honey. There can be *no question* of this. The only point is, can it be produced at a profit?

T. F. Bingham—The product is undoubtedly good; but the question is, how will the public look at it? You say that you fed 23 pounds of sugar syrup to the bees in one night, yet they transformed it into honey. I do not see how they could do it so soon.

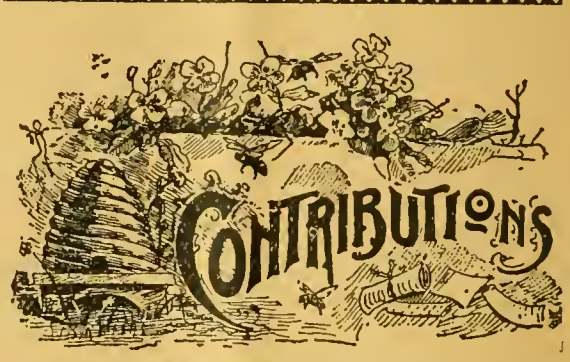
Prof. Cook—They have great glands that are continually pouring out the acid that transforms the cane-sugar into the glucose of honey, and it makes no difference whether that cane-sugar comes from the flowers or from some other source.

James Heddon—Yes; but Professor, I do not see how there can be any flavor.

Prof. Cook—There is not the distinctive flavor of any flower. There is a *honey-flavor*, if that is the proper word.

W. Z. Hutchinson—I should say that it had a kind of spicy, or cane flavor.

(Concluded next week.)



How the Bee-Keeper Should Prepare for Next Season.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

The apiarist who is to be successful has little time to waste, and if any have started into the bee-business on the supposition that "bees work for nothing and board themselves," they had better leave it at once, for no success can be attained along that line.

As soon as the bees are properly prepared for winter, which should be done as early as Oct. 31st, we are ready to go to work for next season, and so we commence operations at once, remembering the proverb of the ancient wise man who says in the good book, "Seest thou a man diligent in business, he shall stand before kings."

The first work is to get the wide frames and sections, which have been in use the past season, in readiness for the next harvest. Get them around, and scrape off all the propolis adhering to the tin separators, and all the bits of comb that are fastened to the bottoms of the wide frames. All these bits of comb should be saved, and to best save them the sun wax-extractor should be close at hand, and all waste pieces of comb put into it during the whole season. As often as it is full, take off the cover and allow "Old Sol" to get out the wax, and have it ready to fill again.

All sections which are partly filled with honey, should have the honey extracted from them (unless you think you will need it to feed in the spring), as the honey will not correspond in color with that which the bees put in to finish out the sections the next season. To extract this nicely, fix a shelf close to the ceiling of a room, put the honey thereon, and keep the room so warm that the mercury will stand at 90° to 100° for three or four hours before you extract. By placing the honey near the ceiling, it does not require nearly as much fire to heat it as it would if placed on the floor or a bench.

These partly-filled sections, if extracted without warming, would be ruined, and the apiarist's prospect of a large yield of honey the coming season would be much impaired also, for these combs are better, to him, than money in the bank, when used as "bait sections."

After the honey is extracted, these sections are to be put in the center wide frame for each hive, so as to secure an early commencement of work by bees in the sections, and so the full sections shall not all come off at once, which will cause the bees to be loth to enter a second set. Fill the rest of the wide frames with empty sections, each having a starter of nice white comb or comb foundation attached to the top.

To put on this starter, get a flat piece of iron and heat it, hold the starter close to the top of the section (now turned bottom side up), draw the iron under the starter, and immediately place it (the starter) in the right position, and it becomes a fixture.

After having your wide frames all filled as directed, pack them away so that they will be ready for use at a moment's notice next June.

The next work is to get out material for more section boxes, if we have machinery, or to purchase the material in the flat if we do not get it out ourselves. It does not matter so much how it is obtained, as when it is got ready, for if put off until just before the honey harvest, the result almost always shows a greater or less loss.

To arrive at the number we wish, if we allow 100 one-pound sections for each old colony in the spring, we shall find the estimate not far out of the way, as I have proven after several years of experience. It is well always to be sure to have enough, for it is far better to have a few sections left over than to have "our pile" become exhausted in the midst of a good honey-flow. As soon as the sections are on hand, furnish each one with a nice starter, and pack them nicely away.

Next, we are to make or get what hives we wish, together with more wide frames, if we think more will be needed. Fill all of the wide frames from the pile of sections as before directed, put a strip of foundation in each brood-frame, and pack all nicely away. This strip of foundation is placed in the frames as a comb guide, where they are not filled full of foundation. I use a strip three-fourths of a inch wide, and, to fasten it to the frame, get out a board which is the size of the inside of your frame, and only half as thick, which is to be fastened to another board a little longer, having a handle to it, so that it can be easily held in the left hand.

Now lay the frame on the thin board, and then place the strip of foundation on it, and next to the top-bar of the frame. Now tip the board to such an angle that the top-bar of the frame and the strip of foundation will make a V-shaped trough, which is to be so inclined that when the melted wax is poured in at the upper end it will immediately run down to the lower end, which (the melted wax) in passing along adheres to both the frame and foundation, thus fastening the strip of foundation securely.

Then there are the shipping-cases for the honey to be prepared; shipping-cages for queens, if we rear queens for sale, etc., etc., all of which should be prepared during the wintry days, so that when spring opens we shall have nothing to do but to give our whole attention to the bees.

Above all else in importance, is a thorough knowledge of apiculture, and during the long winter evenings which are here, is just the time to gain this knowledge. Get around the back numbers of the AMERICAN BEE JOURNAL, and other bee-papers if you have them, and thoroughly read them, so as to put what you learn in practice the next season, so as to be always advancing instead of standing still or retrograding. Do this instead of spending your evenings at the store, saloon or hotel, listening to the idle gossip, or worse than gossip, and, my word for it, you will make a success of bee-keeping which will astonish those about you.

Borodino, N. Y.

Great Premium on page 5!

The Packing-Case Method of Wintering Bees.

Written for the American Bee Journal

BY J. A. GREEN.

It is now near the end of December. According to the advice usually given, bees should have been fully prepared for winter two months or more ago. This advice I have frequently given myself, and I am afraid that I would have been inclined to call the bee-keeper careless and negligent who should put off preparing his bees for winter until so late a date as this. Yet I did not finish packing my bees until last week.

Most of them, it is true, were ready for winter long ago, but 50 or more colonies were left to take their chances until quite recently. This was not wholly due to either intention or negligence. First, my helper deserted me just as the fall work began, and then an unusual amount of work presented itself. Then we sold the old home where I had lived all my life, and it became necessary to hunt up a new place and remove to it, which was a serious undertaking, and consumed several weeks of time. Then I had always wintered a part of my bees in the cellar. This was not convenient now, so that I had to make packing-cases for a number.

These packing-cases I made on a plan somewhat different from what I have used before, and it is this method of packing that I propose to tell about in this article.

Heretofore I have always packed each hive in a packing-case by itself, making a box of light lumber about 8 inches larger each way than the hive, without top or bottom. This was set over the hive, a "bridge" being placed over the entrance, after which leaves, planer-shavings, or some similar material were packed all around and over the hive, the whole being covered with a sheet of corrugated iron for a roof. This plan of protection has always proved very successful with me, and with some slight modifications I expect to continue it, having now about 200 colonies thus packed.

There are some decided advantages in having every hive entirely independent of every other hive. There are other very pronounced advantages in making a packing-case large enough to hold several colonies. Among these are a considerable saving in lumber, and a much greater economy of heat, as the several colonies in a "tenement" packing-case mutually help to keep their neighbors warm.

My new packing-cases are made to take in 4 colonies. Four hives are placed close together, two facing east, with their backs close against the backs of another pair facing west.

These hives are upon the Heddon hive stands, which raise them from the ground about 5 inches. The bottom-boards are loose—I wouldn't have any other kind—and the hive is raised from the bottom-board, and what I call a "wintering rim" placed between. These rims raise the hive about 2 inches from the bottom-board. The sides project beyond the front of the hive, and on this projecting part is nailed a board that forms a "bridge" to make a passage-way through the packing material. The front of this rim is so made that the entrance is at the top of the rim. This rim allows the bees to cluster in a compact bunch below the frames, which they will almost always do if they have the chance.

The bees that die in the hive drop to the bottom, instead of clogging up the spaces between the frames, and the entrance being at the top of the rim, it isn't easily stopped by dead bees from within, or snow or ice from without, as there is a hall-way two inches high with the entrance at its top.

The sides of the packing-box are nailed up separately, and then lightly tacked together at the corners. The nails holding them at the corners are not driven clear in, so that they are easily drawn with a hammer in the spring, and the sides piled up until they are needed again, thus occupying but little space, and lasting much longer than if they were kept nailed up in the large boxes. This also makes the removal of the packing much easier.

As covers for these I have made roofs of various styles, of boards covered with shingles, tin, sheet-iron, and paper. I do not like any of these very well, as it is hard to make a substantial roof in this way without having it too heavy to be easily handled. I think that in the future I shall use, as in the smaller packing-cases, sheets of corrugated iron simply laid over the top of the box and weighted down so that the wind will not blow them away.

In these packing-cases the bees will remain until next June. Those that are likely to need more honey will be looked over as soon as warm weather comes, but all that I know have stores enough, and that show by their manner of working that they have a good queen

will not be disturbed until the honey harvest is near at hand.

As long as things are going well with a colony of bees, they are better off without any interference from the bee-keeper, and this is especially the case in the early spring, when all unnecessary opening of the hive should be avoided.

Ottawa, Ills., Dec. 19, 1892.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Texas Weather—Honey in 1893.

This is Dec. 22nd, and bees have not had a flight for three days. It has been raining almost all the time, but it is not cold yet. We had ice only on two or three mornings, so far. We expect a little "norther" any time from across the peach orchard, forcing us to put on wraps and overcoats. I really would be glad to see a little snow, but often we go clear through the whole winter without any.

Southern bee-keepers, look out. I look for one of those old-time bee years, that makes this our land flow with milk and honey. Why? Just because we have had fine fall and winter rains, and horse-mint and other honey-furnishing plants are growing finely, which means honey next year. MRS. JENNIE ATCHLEY.

Greenville, Texas.

Cleaning Propolized Separators.

I want to thank Miss Emma Wilson for that valuable recipe by which tin separators, etc., can be cleaned of propolis, which was published on page 80. In order to show its value, I will explain.

I have about 2,500 tin separators to clean every season. Until last spring, the glue was scraped off with a case-knife, which scratches the tins, is slow and tedious, and, worst of all, it is bound to leave some stains, and bees, like people, are ashamed of the daubing that others do, and therefore cover up those stains with a new coat of glue, from end to end. (If you don't believe it, try a row of stained sections in a case of clean, smooth ones, and be satisfied).

But now I heat some water to the boiling point, dissolve in a box of concentrated lye, throw in my separators, stir them a little, and with a pitch-fork throw them out on some straw, and pour some clean water over them. I then spread them out, or set them up on end to drain and dry—and the job is done. The tins are as bright and clean as new.

Now you can see what I have gained by that one article in the AMERICAN BEE JOURNAL, and there are thousands of others who, no doubt, have tried it and found it good, and, like myself, come very nearly forgetting to say, "Thank you." But some say, "Oh, they get paid for it!" I doubt whether the writer or editor ever gets full value.

Savanna, Ills. JNO. HANDEL.

The Season of 1892.

My report for 1892 is as follows: Spring count, 16 colonies; fall count, 18; 7 natural swarms; and I took 400 pounds of honey with the extractor. I fed 100 pounds of granulated sugar for winter stores, and put 16 colonies of my bees into the cellar on Dec. 10; 2 are packed on the summer stands, and are wintering nicely so far. This has been the poorest year for bees since I have been in the business, but white clover never looked any better in this vicinity, and as basswood did not bloom this year, I have good hopes for 1893.

L. GEORGE.

Oakwood, Wis., Dec. 19, 1893.

That Queen-Bee Experience.

On page 828 Mr. Kauffman tells his experience with a queen-bee, and wants to know what made her do as she did. She was not to blame for going up the tree, nor over the house and being struck with a lightning-rod. But she was to blame for going off and staying two days in a snow-storm, when she came from the South. If it had been one of our Northern queens I should not have wondered at it so much. She is from a hardy race, I should think. I wish he would send me one of her daughters by telegraph. CHAS. TAREY.

Houghton, N. Y., Dec. 24, 1892.

He Says the Bees Did Well.

Bees have done well this year. I had 6 colonies, spring count; one became queenless and died, one stored no surplus, and from the other four I took 250 one-pound sections of nice white honey. I have 6 colonies packed in forest leaves on the summer stands, and 3 in the cellar, all well supplied with winter stores, from which I hope for still better results next summer. My bees, which were wintered on the summer stands, stored more suplus honey than those wintered in the cellar. LEVI HIGGINS.

Orion, Ills., Dec. 22, 1892.

Temperature in November, 1892.

I want to conduct a sort of "weather bureau" for the use of bee-keepers, with the aid of several other bee-keepers in different parts of the country. It will likely prove to be very interesting when once in proper running order.

The first report is as follows, for the month of November, 1892:

(Freezing (32 deg.) given as the meridian line.)

1st day,	6°	above	freezing.	
2nd "	6°	"	"	
3rd "	6°	"	"	
4th "	8°	"	"	
5th "	12°	below	"	
6th "	4°	"	"	(Rain)
7th "	6°	above	"	(Snow squalls)
8th "	6°	below	"	
9th "	4°	"	"	
10th "	8°	"	"	
11th "	2°	"	"	
12th "	3°	"	"	
13th "		freezing.		
14th "	2°	above	"	
15th "	1°	below	"	(Bees had
16th "	2°	"	"	[a flight)
17th "	6°	above	"	
18th "	2°	"	"	
19th "	2°	"	"	
20th "	18°	"	"	
21st "		freezing.		
22nd "	4°	below	"	
23rd "	20°	"	"	
24th "	22°	"	"	
25th "	8°	"	"	
26th "	5°	"	"	
27th "	7°	"	"	
28th "	10°	"	"	(Bees had
29th "		freezing.		[a flight)

It was cloudy every day but three during the month, with heavy winds. The temperature was taken when near sunrise each day. The above is for 22° north latitude. On the 2nd and 5th of October was the first frost of the fall.

At Floyd, Tex., for the same period of time the temperature stood about the same until about the 20th, ranging from 45° to 50° above zero, then they had a rain which brought it down to 35° for a week; then it turned colder, and on Dec. 1st they had their first frost of any note. Mrs. Jennie Atchley reports this from Texas.

At Hamilton, Ills., 40° north latitude, the coldest day was about the 18th—14° below freezing. The last time bees flew was on Nov. 30th, the mercury showing 43° in the shade, and the wind in the east. Chas. Dadant & Son reports the above for Illinois. JACOB MOORE.

Ionia, Mich.

Just Before the Battle.

The "grand army" of honey-producers in Ontario have held a council of war, and in a few days will march to the annual meeting at Walkerton, Ont., and blow up the sugar-honey magazine. I believe that every real honey-producer is going to use his "Windchester" on the sugar-honey business, and fight it, war to the knife. WM. MCEVOY.

Woodburn, Ont., Dec. 30, 1892.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

Jan. 10-12.—Ontario, at Walkerton, Ont.
W. Couse, Sec., Streetsville, Ont.

Jan. 13, 14.—S.W.Wisconsin, at Boscobel,Wis.
Edwin Pike, Pres., Boscobel, Wis.

Jan. 12-14.—Minnesota, at Minneapolis, Minn.
A. K. Cooper, Sec., Winona, Minn.

Jan. 16, 17.—Colorado, at Denver, Colo.
H. Knight, Sec., Littleton, Colo.

Jan. 18, 19.—Indiana, at Indianapolis. Ind.
G. P. Wilson, Sec., Tolgate, Ind.

Feb. 7, 8.—California, at Los Angeles.
John H. Martin, Sec., Redlands, Calif.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Eugene Secor..Forest City, Iowa.
SECRETARY—W. Z. Hutchinson....Flint, Mich

National Bee-Keepers' Union.

PRESIDENT—James Heddon..Dowagiac, Mich.
SEC'Y AND MANAGER—T. G. Newman, Chicago.

BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

199 RANDOLPH ST., CHICAGO, ILLS.

TO CORRESPONDENTS.

The Bee Journal is sent to subscribers until an order is received by the publishers for its discontinuance, and all arrearages are paid.

A Sample Copy of the BEE JOURNAL will be sent FREE upon application.

How to Send Money.—Remit by Express, Post-Office Money Order, or Bank Draft on New York or Chicago. If none of these can be had, Register your Letter, affixing Stamps both for postage and registry, and take a receipt for it. Money sent thus, IS AT OUR RISK; otherwise it is not. Do not send Checks on Local Banks—we have to pay 25 cents each, to get them cashed.

Never Send Silver in letters. It will wear holes in the envelope, or may be stolen.

Make all Money Orders Payable at Chicago, Ill.—not at any sub-station of Chicago.

Postage Stamps of any denomination may be sent for any fraction of a dollar; or where Money Orders cannot be obtained, stamps for any amount may be sent.

Subscription Credits.—The receipt for money sent us will be given on the address-label of every paper. The subscription is paid to the END OF THE MONTH indicated.

Do not Write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Emerson Binders, made especially for the AMERICAN BEE JOURNAL, are convenient for preserving each weekly Number, as fast as received. They will be sent, post-paid, for 50 cts. each. They cannot be sent by mail to Canada.

Lost Numbers.—We carefully mail the BEE JOURNAL to every subscriber, but should any be lost in the mails, we will replace them if notified before all the edition is exhausted.

Always State the Post-Office to which your paper is addressed, when writing to us.

Special Notices.

The Date on the wrapper-label of this paper indicates the *end* of the month to which you have paid for the JOURNAL. If that is past, please send us one dollar to pay for another year. This shows that Mr. Porter has paid his subscription up to the *end* of December, 1893:

Wallace Porter Dec93
Suffield, Portage co, Ohio

Convention Notices.

INDIANA.—The Indiana State Bee-Keepers' Association meet at Indianapolis, Ind., on Jan. 18 and 19, 1893. G. P. WILSON, Sec.
Tolgate, Ind.

ONTARIO, CAN.—The annual meeting of the Ontario Bee-Keepers' Association will be held in Walkerton, Ont., on Jan. 10, 11 and 12th, 1893. All interested in bee-keeping are cordially invited to be present.
Streetsville, Ont. W. COUSE, Sec.

COLORADO.—The Colo. State Bee-Keepers' Association will hold their annual meeting in Denver, on Jan. 16 and 17, 1893. Election of officers and other important business will come before the meeting.
Littleton, Colo. H. KNIGHT, Sec.

CALIFORNIA.—The 2nd annual meeting of the California State Bee-Keepers' Association will be held in the Chamber of Commerce in Los Angeles, Calif., on Feb. 7th and 8th, 1892. Programmes will soon be issued, for which address, JOHN H. MARTIN, Sec.
Redlands, Calif.

NEW YORK.—The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.
H. C. FARNUM, Pres., Transit Bridge, N. Y.

MINNESOTA—.The annual meeting of the Minnesota Bee-Keepers' Association will be held at Minneapolis, on Thursday, Friday and Saturday, Jan. 12, 13 and 14, 1893. The Thursday meeting will probably be a union meeting with the Horticultural Society which meets at the same place, commencing on Tuesday. A. K. COOPER, Sec.
Winona, Minn.

WISCONSIN.—The Southwestern Wisconsin Bee-Keepers' Association will hold its next annual meeting as Boscobel, Grant Co., Wis., on Jan. 13 and 14, 1893. All members of the Association are requested to be present as the following officers are to be elected; President, Vice-President, Secretary, Assistant Sec., and Treasurer. Blank Reports will be sent each member, for the year 1892, with instructions. A cordial invitation is extended to all bee-keepers, and especially to those that would like to join with us. Each member will be notified at least one month before the meeting.
Boscobel, Wis. EDWIN PIKE, Pres.

Doolittle's Queen-Rearing book should be in the library of every bee-keeper; and in the way we offer to to give it, there is no reason now why every one may not possess a copy of it. Send us one new subscriber for a year, and we will mail the book to you bound in paper, as a present.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, December 31st, 1892 :

CHICAGO, ILL.—Demand for comb honey is quite good, and choice lots bring 18c., others in proportion. Extracted, 6@9c,, according to what it is—sales chiefly at 8@9c.
Beeswax—23@25c. R. A. B.

CHICAGO, ILLS.—Honey of all kinds is plentiful excepting choice white comb. There is no activity, owing to the closing of the year. A good business is expected after New Years. Comb—white, 16@17c. ; dark, 14c. Extracted—white, 9c.; dark, 7@8c.; Southern, 75@80c. per gal. J. A. L.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

CINCINNATI, OHIO.—Demand is good for honey, with scant supply of all kinds. Extracted brings 6@8c., and comb sells at 14@16c. for best white. Although honey is scarce, there is no demand for dark comb.
Beeswax—Demand good.at 20@25c. for good to choice yellow. Supply good. C. F. M. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Comb honey is selling slow, very much slower than we like to have it, and it is our experience that when we start honey in at a high price, it sells hard right through the season. We quote our market nominally at 17@18c. for best white honey, 1-lb. combs. Extracted, 8@9c.
Beeswax—None on hand. B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted. 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

NEW YORK, N. Y.—Our market is quiet. Arrivals are freely, and the demand limited. We quote : Fancy white, 1-lbs., 15@16c. ; 2-lbs., 12@13c. Fair white, 1-lbs., 12@13c. ; 2-lbs., 11c. There are large stocks of buckwheat honey on our market, and we know of two lots of fancy 1-lbs. that sold at 8 and 9c. per lb., respectvely. We quote 1-lbs., glassed or in paper-boxes, 10c. ; unglassed, 9c. Extracted is in good demand at 8@8½c. for basswood and white clover ; 6@6½c. for buckwheat ; 70@75c. per gallon for Southern.
Beeswax—Dull at 25@27c. H. B. & S.

ALBANY, N. Y.—Honey market some quieter and prices some easier. White clover, 15@17c.: mixed, 14@15c.; dark, 10@11c. Extracted, white, 8@8½c.; mixed, 7@7½c.; dark 7c. Stocks light of both comb and extracted.
Beeswax, 27@28c. H. R. W.

"Bees and Honey"—see page 5.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT, 161 South Water Street.
J. A. LAMON. 44 & 46 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN. 28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & CO., 14 & 16 Hennepin Avenue.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

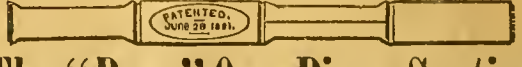
Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

WANTED — A good Second - Hand Well-Drill. Give description, and lowest cash price. ALFRED SOPER,
26A3t Eau Claire, Wis.

Advertisements.

DO NOT ORDER YOUR SECTIONS
until you get our Prices on



The "Boss" One-Piece Section
—ALSO—
Dovetailed Hives, Foundation
AND OTHER SUPPLIES.
We are in better shape than ever to fill orders an short notice. Write for Price-List.
J. FORNCROOK & CO.
WATERTOWN, Jeff. Co., WIS., Jan. 1st, 1893
Mention the American Bee Journal.

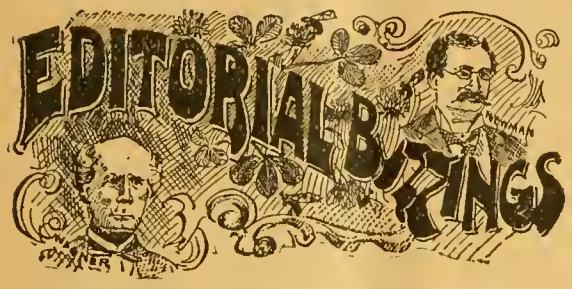
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., JANUARY 12, 1893. NO. 2.



The Honey Almanac for 1893 will be issued about Jan. 20th.

Sugar-Honey production cannot be condemned any too strongly. Don't "monkey" with that "gun." It's loaded.

The Voting Blank of the National Bee-Keepers' Union, on page 4 of last week's BEE JOURNAL, you should cut out, fill up all the blanks, and send it with $1.00 to Thomas G. Newman, as directed in the Blank. This must be done before Feb. 1st, if you want your vote counted, Better do it *now*, before you forget it.

Mr. Eugene Secor and wife passed through Chicago last Friday on their way to their home in Forest City, Iowa, from the Washington convention. Mr. S. reports that it was one of the very best meetings ever held by the Association, particularly on account of the presence of Hon. Edwin Willctts, Professors C. V. Riley, and H. W. Wiley, and Mr. Frank Benton.

Paddock Pure Food Bill.—Since Prof. Cook suggested that the editor of the BEE JOURNAL examine the Pure Food Bill introduced into Congress by Senator A. S. Paddock, for the purpose of prohibiting the adulteration of food products, we have investigated the matter, and would report that the Bill as it now reads is general in its inhibitions, as to all sophistications, adulterations and manipulations of every kind and nature calculated to debase any and every edible product, manufactured or otherwise, and the branding and selling of the same as the pure and genuine article.

The Paddock Bill is much stronger in its provisions, from the very fact that it mentions no *particular* food, but *embraces them all* in its very general terms. This is a point greatly in its favor, as it can be applied to the adulteration or mixing of honey as well as to any other food product that may have been tampered with by the criminally inclined of this or any future perverse generation.

It seems to us that if the passage of Senator Paddock's Bill can be brought about, it will be to bee-keepers a great weapon to use against those who practice the adulteration of honey without plainly indicating such adulteration or mixing when attempting to sell the same.

This Bill is now on the calendar, in the House of Representatives, and it is believed that with proper pressure it

can be brought under consideration at an early day. All can materially aid in securing the passage of the Bill by at once demanding their representatives in the lower House of Congress to insist upon the immediate consideration of the Bill. Not only will it be well for all people interested in the passage of this Bill to communicate directly with their own representatives, but also to address letters and petitions to the Hon. Wm. H. Hatch, Chairman of the Committee on Agriculture of the House, who now has the Bill in charge.

On page 42 of the BEE JOURNAL for July 7, 1892, is a sample letter sent us by Mr. J. H. Larrabee on this very subject. As we then urged every bee-keeper to copy that letter and sign and mail it to their representatives, we would now again, more strongly if possible, entreat them to do so *at once*, sending the same not only to their representatives now at Washington, but also send a copy of it to the Hon. Wm. H. Hatch, mentioned in another paragraph of this editorial.

For the benefit of our new readers, and lest some who read this may have mislaid the number of the BEE JOURNAL containing the sample letter to be copied and mailed, we reprint it as follows, making a few necessary alterations :

HON. ——— ———

WASHINGTON, D. C.

Dear Sir :—I understand that the Paddock Pure Food Bill is now on the calendar of the House of Representatives. May I urge upon you to support it in the interests of, and in justice to, the producers of honest food ? Bee-keepers all over the land are very much interested in its passage, and, regardless of party, urge its evident justice, and the great need of it. Please consider your own interests, and the interests of the people you represent, and, so far as you can, consistently and honorably, use your vote and influence in this good cause. I am,

Respectfully yours,

——— ———

We ask that each reader of the BEE JOURNAL *just now* copy the above letter, sign your name to it, and mail it to your representatives, and also to Hon. Wm. H. Hatch—all in Washington. This will necessitate making several copies of the letter, but you certainly can afford to spend that much time in a cause which, if triumphant, will result in such abundant good to yourself and everybody else. Please don't put this matter off, for now is the time to act—"now is the day of salvation" for the producers of honest honey, or any other pure food product.

The North American Convention met in Washington, D. C., on Dec. 27th, 28th and 29th. Bro. Hutchinson, who was the Secretary, and who took the report of the proceedings for the AMERICAN BEE JOURNAL, writes us that the meeting "was not largely attended, but those present were mostly leaders, and a very profitable time was passed." The next meeting is to be held in Chicago. The following are the new officers elected for 1893 :

President—Dr. C. C. Miller, Marengo, Ills.

Vice-President—J. E. Crane, Middlebury, Vt.

Secretary—Frank Benton, Washington, D. C.

Treasurer—George W. York, Chicago, Ills.

The report of the convention will appear in full in the BEE JOURNAL, as usual, and then will be put into pamphlet form. We expect to begin it in next week's issue.

Mr. F. H. Macpherson, now of Windsor, Ont., called at the BEE JOURNAL office last week. Until about a year ago, he was associate editor of the *Canadian Bee Journal*, but is now publishing a weekly newspaper in Windsor. We enjoyed his call very much, and trust he may "drop in" again when in the World's Fair city. He has almost entirely recovered from the effects of the accident which befell him about two years ago.

Bees and Peaches.—It seems that Mr. J. A. Pearce, of Grand Rapids, Mich., has been threatened by some 25 of his envious or ignorant neighbors, who have gotten up a petition and sent him, ordering him to "take care of his bees," on account of them eating their peaches, as they foolishly claim.

The following is a letter received from Mr. Pearce a few weeks ago:

I mail you a petition sent me by my neighbors—fruit-growers—just to show how some people will act toward their best little friends, or big ones either, if they happen to "step on their toes."

A year ago all nature was perishing here for want of water, and the first cling-stone peaches (that are nearly all water as they can be), seemed to be the only available supply for the bugs, beetles and bees, and they all went for them—the bugs and beetles first, mostly in the night, and the bees lastly; and all the trouble was laid to the bees. They were certain the bees were the ones that cut open the peaches.

The real damage, however, was very insignificant, as I asked one man who had 3,500 bushels, how many peaches had been eaten by the bees, and he said he thought *about a bushel!* In my own orchard, I do not think it was more than that, while it would be safe to say that those very bees helped this man to one out of every three peaches, thus making over 1,100 bushels for the one destroyed!

This year (1892) there have been seasonable rains, and no trouble at all.

If any one would take the pains to look at a bee going into a flower, or not, and see what an elegant little brush she is, with those curved hairs all around the forepart of her body, and her "bangs," and then to think she must have this pollen to feed her young, those who would thus charge the bees must go and hide their heads for shame, if they are fruit-men, and have been "kicking" about the bees sucking the juice from a few cracked grapes or peaches!

J. A. PEARCE.

The following is a copy of the petition referred to by Mr. Pearce, which was signed by 25 neighboring fruit-men:

We, the undersigned, fruit-growers in your neighborhood, respectfully request you to take care of your bees, for the reason that they do great damage, and we have suffered until we can stand it no longer, and we want the matter settled in a neighborly manner, so as to relieve us from further damage. Please attend to this at once, and oblige,

Yours truly.

(*Signed by 25 persons.*)

We would suggest that Mr. Pearce send to the Manager of the National Bee-Keepers' Union for copies of the decision rendered by the Arkansas Supreme Court, declaring emphatically that bees are not a nuisance, and that bee-keepers must be protected in their rights to keep bees. That leaflet would be interesting reading for those 25 who believe in having things done in a "neighborly manner."

Also, for the benefit of those "neighbors," and others who may think that bees eat peaches and other fruit, we present here some testimony on the subject, from one who knew what he was talking about. Read what Mr. B. E. Rice, of Boscobel, Wis., says:

In reading my bee-periodicals and some of the local papers, I see that there is considerable said from time to time about bees damaging grapes, as well as some other kinds of small fruit. I claim that it is all "bosh," unless the fruit is first injured in some way or another. I make this assertion from my own experience in growing grapes in the same yard with a number of colonies of bees, at the same time using the grapes as shade for the bee-hives. As my attention has been called to this matter at different times, I have given it much thought, and watched it most carefully.

In the last three years there has been only two instances where the bees have worked on grapes in the least.

In the first instance the damage was caused by the chickens picking and eating the lower branches, or clusters, that were hanging low down within their reach. The second instance was caused by a very severe hail-storm, which bruised or punctured the grapes enough to expose their seeds, enticing the bees to work on them. This lasted only for a few days, until the bruises became seared over. You will observe that in both instances the fruit was first injured before the bees would have anything to do with it, and I do not believe that bees will hurt grapes, or other kind of fruit, unless it is damaged by something else. Using them as I do for shade for bee-

hives, large clusters of the delicious fruit hang all around the hives—yes, and even within a few inches of the entrance to the hive. This must certainly give a pretty good chance to test the matter. In conclusion I will say that I really believe that the most of this complaining is caused by prejudice.

B. E. RICE.

The foregoing ought to finally settle the matter, and if we mistake not, after those petitioners have carefully read it all, they will see the error of their way, and "respectfully" and in a "neighborly manner" apologize to Friend Pearce for their very *un*neighborly manners.

The Programme of the Colorado State Bee-Keepers' Association, to be held in Iron Hall, Charles Block, Denver, Colo., on Jan. 16th and 17th, 1893, is principally as follows:

President's Address — E. B. Porter, of Longmont.

Some of the Newer Races of Bees—Frank Rauchfuss, of Montclair.

Are bees an Injury or a Benefit to Horticulturists?—V. Devinney, of Villa Park.

Matters to be Considered by this Convention—Suggestions—R. C. Aikin, of Loveland.

Bees for the Average Farmer—A. M. Preston, of Longmont.

Why Bee-Keepers Should Organize—H. Knight, of Littleton.

What Ought the State Department of Agriculture to do in Apiculture?—D. C. Tracy, of Ni Wot.

Bees and Flowers, Illustrated—Prof. C. S. Crandall, of Agricultural College.

A "January Swarm," by "Queens" and "Drones."

How Shall we Increase the Consumption of Honey?—J. E. Lyon, of Edgewater.

Bee-Hives—R. C. Aikin, of Loveland.

General Discussion on How are Your Bees Fixed for Winter?

The Best Method and Time of Requeening—H. C. Rauchfuss, of Magnolia.

Apicultural Experiments—Prof. C. P. Gillette, State Agricultural College.

What are the Benefits to be Derived from Making an Exhibition at the World's Fair?—E. Milleson, of Denver.

Future of Bee-Keeping in Colorado—J. B. Adams, of Longmont.

Littleton, Colo. H. KNIGHT, *Sec.*

Mrs. Elmina Hambaugh died at Versailles, Ills., on Dec. 23rd, and was buried on Christmas Day. She was over 80 years of age, and the mother of Hon. J. M. Hambaugh, of Spring, Ills., who has just been elected President of the Illinois Bee-Keepers' Association. The Hambaugh's are one of the old and prominent families of this State.

Our friend, Hon. J. M. Hambaugh, who sent us the sad notice of his mother's death, adds the following tender words:

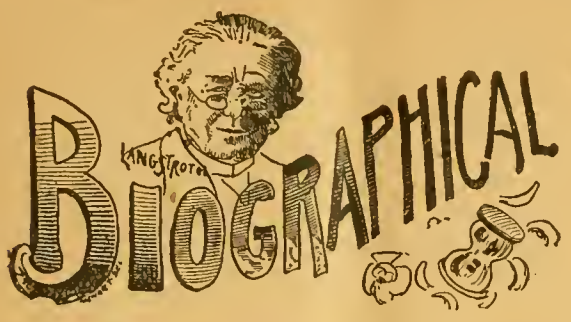
A pall of gloom is upon our household. Our angel mother has closed her eyes in death, and only through the drapings that conceal the great beyond, can we find a solace. She was our life, and her memory will be as sacred as the eternal spirit, and will be our beacon to lead us to a better home above.

J. M. HAMBAUGH.

The AMERICAN BEE JOURNAL desires to extend to the bereaved family its own heartfelt sympathy, as well as that of the many readers who have come to know, as well as honor, the name of Hambaugh through the writings and efforts Hon. J. M. has put forth in their behalf.

Dairyman's Association of Illinois will hold its 19th annual meeting in Sycamore, DeKalb county, Ills., Jan. 25th, 26th and 27th, 1893. Many questions will be discussed that will be of great importance to the dairymen of the State. Liberal premiums will be offered on butter and cheese. Supply dealers will have ample room to show their goods. Premium lists may be obtained by addressing the secretary, W. R. Hostetter, Mt. Carroll, Ills.

James Parton wrote so many books which come home directly to all Americans, that one of the most interesting features in the January magazines to most readers will be the Rev. Julius H. Ward's fine study of his work and character in the January "New England Magazine." Get the magazine for 1893. Price, $3.00 a year.



MR. P. H. ELWOOD.

This week we present to our readers the portrait of Philip Henry Elwood, of Starkville, N. Y. For some time he has contributed replies to the queries published weekly in the BEE JOURNAL, and occasionally an article has appeared from his cultured and efficient pen.

P. H. ELWOOD.

In 1889, at the convention of the North American Bee-Keepers' Association held in Keokuk, Iowa, Mr. Elwood was elected President for the year 1890.

In the last edition of the "A B C of Bee-Culture," Dr. Miller says that Mr. Elwood is a good illustration of the healthfulness of bee-keeping as a vocation. At the age of 23 he was advised by his physicians to abandon a college course and choose some out-door occupation, and now P. H. Elwood, the bee-keeper, is known as a man who tips the scales at 225 pounds.

Soon after leaving school he was offered a desirable position as teacher of natural sciences in a high school in Michigan, but the offer was refused. In 1872, at the age of 25, he commenced bee-keeping as a partner of Capt. Hetherington. This partnership was profitably continued for five years, when he removed a distance of ten miles to Starkville, Herkimer County, N. Y., where he has since remained, to carry on the business of producing honey. He was happily married in 1879.

Mr. E. is a conservative bee-keeper, little inclined to rush after new things simply because they are new, and is sometimes accused of being at fault in not placing sufficient confidence in the recommendations of others. He cares more to be sure that his plans and implements are such as experience proves the best, than to be constantly trying to invent something new.

He uses the small Quinby hive, and after giving a thorough trial to out-door wintering, he winters his bees exclusively in cellars. The larger part of his comb honey is put up in two-pound glassed boxes, and it was his honey that took the first premium at the Paris World's Exposition, exhibited in the same packing-cases in which it was shipped from his aplary. He prefers Italian hybrids, and keeps about 1,300 colonies.

However earnest he may be in other things, he believes that the preparation for the life to come is of infinitely more importance than anything else in this life.

Have You Read that wonderful book Premium offer on page 37?

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Good-Bye to 1892—Welcome 1893.

The weather in this part of Texas, at this date (Dec. 31), is pretty gloomy. It has been pouring down rain for nearly 21 hours, and everything is in a float. Ah, me! if it don't rain in Texas sometimes. It is not cold, though, but the bees cannot get out without getting their heads wet and their feet muddy.

At a late hour, the last night of the year 1892, I sit at my desk punching the typewriter, and wondering how many of us are willing to fall upon our knees, this, the last night of the year, and thank God for all the blessings he has showered upon us the past year. Even the first month is a fine time to turn over a new leaf, if we fail to turn it the first day. Friends, let's all try to be of more help to one another, this year than we were last, and see if we won't be any happier when a new year comes again.

Friends, I will soon begin giving bee-keeping from the start, in this department, as we have a new crop of readers this year. I hope the veterans will overlook us in this matter, and consider that we all were beginners once. I hope the bee-keeping friends all over the South will join in and help me to make "In Sunny Southland" what it ought to be—an interesting department for all.

I am now through, and must bid you adieu for the year 1892. J. A.

P. S.—Dr. Miller and I are too good friends to let little things break our friendship, aren't we, Doctor?

Queens as Premiums—Who Will Win?

To the person sending to me the largest number of new subscribers to the AMERICAN BEE JOURNAL from Jan. 1st to June 30th, 1893, I will give a fine breeding queen of the five-banded variety—such sell for $10; for the next largest number, a three-banded breeder from imported mother; the next largest, a tested queen of either strain; the next, a dollar queen. Who will be the lucky parties? A correct account will be kept, and the premiums promptly paid on July 1, 1893.

Bee-keeping friends, why not each of you who is not now a subscriber to the AMERCAN BEE JOURNAL, send me your name with $1.00, and receive as a premium the book "Bees and Honey?" This is the biggest offer in beedom, all to every new subscriber—52 BEE JOURNALS weekly, brimful of the very best bee-news, suited to all localities, all for $1.00, and "Bees and Honey" to boot. Just think of it! JENNIE ATCHLEY.

Greenville, Texas.

When a Queen is Safely Introduced.

Here is a way to tell whether a queen is safely introduced when released among the bees:

In 15 or 20 minutes after you release her, disturb the bees in some way by smoking, jarring the hive, etc., and if they do not pounce upon her at once, shut up the hive and go on, and give it no further attention regarding the introduction of that queen. A queen is *never* safely introduced until the bees show her royalty, or feed her, and I might say she is only safe in summer when she begins to lay. J. A.

Hiving Swarms on Starters, or in Empty Hives.

It is becoming more and more apparent to me that bee-keeping in the Northern States, is nearly entirely different from what it is in the South. Mr. Hutchinson comes out again, on page 823, with an article on hiving bees on starters, or in empty hives, as the best method. Well, Mr. H. is all right for Michigan, but all wrong for Texas.

It will not pay to hive our early swarms on only starters, or, worse still, empty frames. Our early swarms are of no use whatever, only to perpetuate the colony, and the means of our having a booming colony two months later. We get no use of the bees that compose our early swarms, for storing surplus honey. So, fearing that our Southern bee-keepers might take it for granted that Mr. Hutchinson's article would apply to all

sections of country alike, I write this to inform you that it will not do in this section.

Now, should we have a swarm just at the beginning of our honey-flow, then Mr. H.'s rule will apply here or elsewhere alike. His plan is a capital one, where we have a swarm just as our harvest begins, the way they have it in Michigan. By his method we may push the bees right into the sections, and get a fair yield from the very bees that compose the swarm. So I say, give me all the nice brood-combs I want, and watch me gain grouud on the bee-keeper that hives his swarms on starters and in empty hives. J. A..

Telling When a Queen Grows Old.

Will Mr. G. W. Nance please teach us how to tell when a queen is getting old? (See page 670.)

I have had young queens, two to six months old, that for awhile would almost cease laying, then within a week's time have every available cell occupied; while occasionally an old 2½ or 3 season queen will always have her hive filled, as it should be, with bees.

Spurger, Tex. GEORGE MOTT.

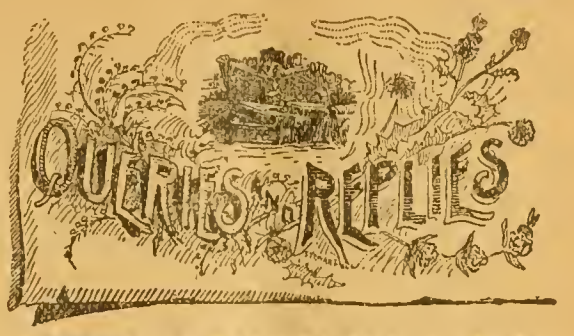
Wintering Bees in the South.

We know nothing by experience in the South of the experience and trouble they have in wintering bees in the North. No cellars or housing are required. We see it is more trouble and expensive in the North to winter bees, than to care for them in summer. We have none of this trouble and expense. Our bees winter out-doors without any danger or risk. All that is required is a good, tight hive, and about 15 or 20 pounds of honey. In ordinary winters 15 pounds is sufficient. In fact, some winters my bees have gathered honey all winter.

As to the quantity of bees, it is not necessary to have a very large colony. I prefer a small one, as it requires less honey, and there is no trouble to breed them up strong enough for the first honey-flow in the spring. They will winter on the summer stands without any risk. In this locality (Marshall, Texas) bees begin to swarm the last of March. W. K. MARSHALL.

Marshall, Texas, Dec. 2, 1892.

"Bees and Honey"—page 37.



Sure Ways of Knowing How Far Bees Fly for Honey.

Query 853.—1. Is there any sure way of telling how far bees go for honey, except by the bee-hunters' rule of setting them to work and "lining" them the entire distance? 2. Are not the most of those long-distance ideas more or less guessing, unless the bees are "lined" the entire distance?—Bee-Hunter.

1. That is the readiest sure way. 2. Yes.—R. L. TAYLOR.

1. Not that I am aware of. 2. Not always.—J. H. LARRABEE.

If the bees are bringing in a particular kind of honey or pollen only to be found in a certain place, this is proof enough for me.—W. M. BARNUM.

They are "lined" by watching them start 4 miles from home when there is not a place for a colony to exist between the starting point and the hive.—JAMES HEDDON.

Not that I know of, except in case of robbing, when bees may be dusted with flour so that one can tell them when they return to the home hive.—C. H. DIBBERN.

Not absolutely sure, but by watching the honey yield in apiaries located from two to four miles apart, you can be reasonably certain as to the distance they profitably go.—P. H. ELWOOD.

1. I know of no way, unless they could be sprinkled with flour, and their return watched for. 2. No guess-work about it, if they were seen to return as named in No. 1.—JAMES A. STONE.

Under some circumstances, such as the introduction into a locality of a new race of bees, the distance to which bees will fly may be easily determined without lining them.—JAMES A. GREEN.

1. I don't know of any sure way to tell; and, Mr. Bee-Hunter, I do not think you can tell by "lining," either, as the bee you line to-day may go a half mile further to-morrow.—MRS. JENNIE ATCHLEY.

1. Yes, in case of cleared regions, and knowledge of all the apiaries in the regions, and also by seeing bees work on islands of a known distance from bees. 2. No, certainly not, in case of islands. —A. J. COOK.

1. No, unless no other bees are kept within a range of several miles. 2. The long-distance ideas are largely guesswork. Probably bees will not do well that go further than 2 or 3 miles for honey.—J. E. POND.

1. To make it short, I will say no. 2. Years ago, when Italians first came to this country, it was easy to say how far they had been found from home, but of late years it is a matter of "long-distance guessing."—H. D. CUTTING.

1. Yes; you might sprinkle flour on quite a number of bees in the field before night, at a long distance from your apiary, and have some one watch at home to see if the little "millers" came home. 2. Probably many of them are. —MRS. L. HARRISON.

The distance of the flying of bees was easily found by the introduction of new races in the country. If you are alone owning Italian bees, and find them working 3 miles from your apiary, you will know that bees can go so far for honey, without guessing.—DADANT & SON.

1. I do not know of any other certain way under ordinary circumstances. If there were no bees except in one place in a radius of many miles, it would be easy to tell; or if there were Italian bees in only one place. When I had the only Italian bees in the vicinity, they were found in the mornings in great number in a buckwheat field two miles away. That is as far as my experience goes.—M. MAHIN.

1. Yes. In many instances where the bees' energies are directed across lakes and marshy barren districts, rivers, etc., it can be accurately determined. Several years ago, my bees were actively engaged in an easterly direction, which was over a barren waste; with some curiosity I followed their course until I found them on timber 3 miles distant. It was honey-dew they were gathering. —J. M. HAMBAUGH.

1. Yes, there is often a field of buckwheat one, two or three miles away, and the larger part of the bees of an apiary are seen to fly in that direction. I have followed them up, and several times found beyond any question upon what they were working. In one case it was a field of red clover; in another field sorrel, which furnishes a very sweet pollen; in another buckwheat. 2. Not always.—G. L. TINKER.

1. Perhaps not in a general way. 2. Yes, and wild guessing at that. My experience of last fall, at a time when there was but one plant in bloom, bearing nectar—the white aster—convinced me of what I have long suspected, that bees do not go as far as many *guess* they do in quest of honey. To know a thing, and to guess at it, are two different things.—G. W. DEMAREE.

1. Yes, there was a time when mine were the only Italians in this county. Finding them seven miles from home was conclusive evidence to me that at times they would go that distance for honey. 2. No, not when we know what kind of honey our bees are gathering, and that they must fly a certain number of miles to reach the flowers from which they are gathering.—S. I. FREEBORN.

1. Yes, there may be other ways. If I had the only Italians within a possible range, and found Italians in a certain field within that range, I would think my bees flew that distance. Marking bees with different colors on different days by flouring in a buckwheat field, then watching to see if they returned to my hives, might settle it. 2. I'm afraid we don't know anything too positively about it.—C. C. MILLER.

No, sir, they are not guesses. When there is no buckwheat nearer the apiary than five miles, and the bees are at work on buckwheat, the bees must go that five miles to get it. H. A. March, of Fidalgo, Wash., followed his bees seven miles while at work on the flowers gathering honey; and when the Italians were first introduced into this locality, they were found quite plentifully at work on clover four miles from home, with clover in profusion everywhere.— G. M. DOOLITTLE.

In my younger days I lived by the side of a lake six miles wide; there was kept about 100 colonies of bees on the north shore of the lake in one place. About a mile out from the north shore there was a very small island, all rocks and sand, nothing grew on it. I often went there to fish, and I saw a great many bees going back and forth across the lake to work on the other side of the lake—6 miles away. Of course, after getting across the lake, the bees had to go more or less inland to work, perhaps a mile or two.—E. FRANCE.

Report of the Michigan State Bee-Keepers' Convention.

Written for the American Bee Journal

BY W. Z. HUTCHINSON.

(Continued from page 15.)

Prof. Cook then read an essay as follows, on

Experiments in Apiculture.

Inasmuch as I presented this subject quite fully in one of the leading bee-papers (page 498 of the AMERICAN BEE JOURNAL for Oct. 13, 1892), the task before me now is considerably lessened in magnitude and importance. In that article, as some of you may remember, I suggested a line of action for our National and State associations at their next annual meetings, which I doubt not is the cause of my being assigned to speak on that subject now.

I need not argue here, that experiments are desirable with such important problems as the "Nameless Bee-Disease," "Adulteration," "Sugar-Honey," and "Honey Analyses," before us for settlement; he must be dull, indeed, who says that bee-keeping, unlike other industrial pursuits, is crystallized into fact and certainty, and needs no wise, patient, pains-taking research to secure the fullest possibilities in its prosecution.

Again, it goes without saying, that bee-keepers should not be asked to assume the expense and spend the time to personally attend to, or even to oversee this experimental work. With the large appropriations granted for State and National effort in experimentation in practical lines, why should not Apiculture have at least the crumbs? If all other pursuits were left to themselves, then we might view with complacency the neglect of Apiculture, but with an appropriation of three-fourths of a million of dollars for just such work, it stands to reason that Bee-Keeping should claim and secure at least a few thousands to aid her in the struggles which she in common with all industrial pursuits, must confront in the onward march to success. Is it not sheer injustice, that with the exception of two or three States at most, not a scintillation in this great glow of experimental research comes our way?

Again such work needs the skill, patience, and accurate habit which long years of training alone can give. This is the weighty reason that secured to us the experimental laboratories of the States and the Nation.

Bee-keepers, had they time and money to spare in developing their pursuit in obscure lines, could not, for very lack of skill and training, study the microbes that bring disease; determine the ways and means to thwart the demon of adulteration; and should not be required to settle the doubts regarding "sugar-honey." No, we need trained men; we must have trained men; if we assert our rights, we will have trained men. I say, let us go resolutely to the men in control and request action; if requests do no good, let us demand attention; and if we are persistent, our demands will be heard and heeded.

We have two factors in our struggle which may be made exceedingly influential in our effort: A very intelligent bee-keeping press, sustained by an exceptionally bright and intelligent corps of readers. These papers, if they will unite in a wise plan of action, can through their readers bring such a force to bear on executive and legislative bodies that success is assured. The Director and Board of an experiment station would never stand before a hundred petitions from practical men; what then shall we say of a thousand such pleas, which, through wise action, our bee-keepers may easily secure.

If bee-keepers would only realize this, they have a power in their hands, strong enough to conquer the strongest enemy that can be brought to oppose them.

Of course, the National Association is the body to secure recognition from the general government. Yet a word in that connection may not come amiss.

The statement is made that a reduction of $10,000 in the appropriation, of necessity makes it impossible to secure any aid from that source. But is this true? When we remember that the grand sum of over $1,600,000 is appropriated to run the Department, and that the by no means insignificant sum of $27,300 is devoted to the Division of Entomology, we see they are not yet reduced to a starvation level. The Division of Pomology receives $11,300, and yet entomology, as studied and investi-

gated at the Department of Agriculture, bears on that industry more directly by far than it does on Apiculture. Yet *it is left in full force and activity.* Why then should not the Entomological Division, in case it still holds control of the bee-keeping experiments, with its still larger appropriation, continue its one man with a paltry $1,000 a year in the service of bee-keeping? I earnestly believe that it should do so, and would, if bee-keepers would insist on their rights as they may, and ought to do. I know that Mr. Benton is still in the Department, and we all know that he is competent to do royal service; yet we all know that he is doing almost nothing to aid bee-keeping. He is kept in other lines of work. Perhaps we are unfortunate, in that he is such a good all-around man.

I was criticised at the late Illinois State Association for suggesting that Dr. Riley might not be an enthusiast in our line of work. Do not the above facts make such a suggestion reasonable, especially as he commenced preparation to discontinue the position held by Mr. Larrabee long before he could know that this excuse for it would ever exist? Dr. Riley is an entomologist, and a good one, but he has little knowledge of apiculture, and it would not be strange if his interest and sympathy were no greater than his knowledge. In view of the facts, this is so probable, that I believe the suggestion criticised was warranted.

Again, Dr. Riley's whole plan must be approved by the Assistant Secretary, or the Secretary of Agriculture, and so no action by Congress is necessary, and we can petition directly to the head of the Department for a change that shall restore the one worker to the field; and if we are full of push and determination, we can surely secure it. A committee appointed by the National Association to appeal directly to the Secretary of Agriculture, backed by a copious shower of petitions from all over the country, will insure action. I say, let us on to the conquest!

As to State action, I need not add very much to the above. Those States where apiculture is an important industry, like New York, Michigan, Illinois, Ohio, Iowa, Colorado, Utah and California, owe it to bee-keepers to institute experiments in apiculture in connection with the experiment stations of the several States. To secure this, we only need to inaugurate the same earnest, persistent action suggested above. We ought to have a good, live committee, and the same flood of petitions. Our President and Secretary, as expert bee-keepers, and at the same time legislators, should be on this committee.

All the above and similar States should be asked to select some wise, energetic, wide-awake bee-keeper to take the work in hand. If he were asked to give all his time, he should have $1,000 or $1,500 a year salary. If he is only to keep watch and secure aid when dangers menace, then a few hundred dollars will pay him well, and prove a very wise expenditure on the part of the station.

In our own State we have a very excellent plant now owned by the experiment station, and yet the State has not for the last two years paid anything for its management. It seems to me that Michigan could do no wiser thing than to man this station with one of its brightest and most capable bee-keepers. I believe the station would get as good and as ample fruit from such a course as in any line of work which it could undertake. I believe this association could institute action that would secure this benefit. Can we make effort in any more desirable direction?

A. J. Cook.

James Heddon—I would like to know how it so often happens that such offices are so frequently filled by incompetent men? I am ready to vote, too, for the measure if I can only be sure that the office will be filled with a competent man. I want a man that has produced a crop of honey, and knows something about the real bread-and-butter side of the business.

Prof. Cook—There are many things that the right man could do. For instance, in our old cellar, the bees have always wintered perfectly. In the new one it has always been a failure. Now, there must be a reason for this. If this point could be decided it would be a great help. There are many other similar points that might be decided if we could have the right man at the work. At the College is an apiary. All that is needed is a man to make the experiments. If a thousand petitions should go to the proper officers it would be found that a paltry cut of $10,000 would not result in leaving the place vacant.

Geo. E. Hilton—I know something of the experiments that Mr. Larrabee had outlined, and they ought to be continued. I hope this meeting will not be allowed to pass without something being done to secure our rights in this matter.

Upon motion of Prof. Cook, a committee consisting of W. Z. Hutchinson, R. L. Taylor and Geo. E. Hilton was appointed to look after the matter.

Bee-Escapes and Their Use.

An essay was expected upon this subject, but neither it nor its author "showed up." A discussion followed however, if unqualified praise from every one who had used the escape could be called a discussion. The Porter was considered the best escape, but Mr. Heddon called attention to the fact that to Mr. Reese belonged the honor of the original bee-escape from which sprung all the others.

Shall We Go Out of the Bee-Business?

T. F. Bingham led in the discussion of this topic. He said that he had always advocated that the farmer keep a few bees on the same principle that he keeps fowls, hogs, sheep, etc. He may not be quite so successful as the specialist, but he will have a fair success with all, and a poor season for bees does not pinch him as it does the specialist. It is not necessary that the farmer bee-keeper should know all the fine points of bee-keeping, that a bee's sting is composed of three parts, etc.; he simply needs to know something of the ordinary principles of bee-keeping. He can engage in nothing on the farm that will pay him as well as the keeping of the bees.

James Heddon—I differ from Mr. Bingham. Each and every branch of farming is more related to one another than is that of bee-keeping to any one branch of farming. Bee-keeping is more like manufacturing than like farming. A man may stay inside high walls and never see the surrounding country, and yet make a success of bee-keeping. Shoe-making or wagon-making would be better than farming to combine with bee-keeping. Bees swarm just when the farmer is the most busy. The specialist is always at the head in any business. Specialty is what makes the prices on the bargain counters. A man cannot easily change from one business to another without loss. Prof. Matthews well illustrates this in his book, "Getting on in the World," when he says that the different professional paths do not lie parallel; they start from a common center like the spokes in a wheel, and the distance between them widens the further we get from the hub. We cannot step from one spoke to another, but must go back to the hub and start anew. There is a law that he who produces at the minimum cost will succeed, while he who produces at the maximum cost will fail.

J. A. Pearce—I have bees and fruit. I should not like to drop either. One is an advantage to the other. When we have a poor fruit season it often happens that the bees help us out, and *vice versa*.

Few Bees and Much Attention vs. Many Bees and Little Attention.

This topic had been assigned to Byron Walker, but as he was not present, Mr. Heddon said that was the topic that *he* would have preferred to the one that was assigned him, viz.: "How Can We Stimulate the Market?" as he did not believe that any stimulation was needed. He was asked to give his views on this, his favorite topic, and spoke in substance as follows:

The wise bee-keeper first looks out for a good field—one that is well stocked with the different plants that furnish the main honey harvests, and that is not already stocked with bees. Having found the field, the next question is how to gather the nectar—how to "drain the field"—so to speak, and get the results in the market with the least expenditure of capital and labor. That is *the* question. It is not a question of how many pounds per colony can be secured. That has *nothing to do with it.* I say, keep enough bees to get the honey with the least labor to the apiarist. Labor is the great expense in honey-production. Have enough bees so that it will not pay to fuss with weak colonies. When the Western cattle-raiser with his thousands of head of cattle hears one of his men say, "One of the steers is sick," does he stop and dose that animal with medicine and try to cure him? Not much. He says: "Knock him in the head; take off his skin, and *come on;* we can't fuss with a sick steer." That is the way we should keep bees. Have enough of them so that when we lose some of them in winter, we can save the hives and combs and *keep right on and lose no time.*

Prof. Cook—For once I must agree with Mr. Heddon. I think that he is nearly correct. We are now working bees with much less labor than in the past. I think that we are learning to work more bees with less labor.

Geo. E. Hilton—Years ago, in conventions, we used to hear people say that one man could care for 75 or 100 colonies of bees. Now the talk is of handling 200 and 300 colonies. I, myself, believe that I could care for 500 alone.

J. A. Pearce—I hope Mr. Heddon

won't get bee-keepers into thinking that they can keep bees profitably in a slip-shod manner.

James Hedon—I would do everything when *nine* cents of labor will bring *ten* cents of pay

Prof. Cook—I would like to have Pres. Taylor say how many colonies he thinks he can handle.

Pres. Taylor—Perhaps 300.

James Heddon—I don't think it possible, nor profitable if possible, for one to handle 500 colonies. The swarming will swamp him.

Testing Glucose Mixtures.

Prof. Cook now brought forth the samples of glucose and honey mixed. A testing committee consisting of Messrs. Bingham, Pearce and Hunt proceeded to taste the samples. They reported as follows:

No. 1, very little honey flavor.

No. 2, some honey flavor.

Nos. 3 and 4, nearly all honey.

Prof. Cook then said that No. 1 was one part glucose and one of honey. No. 2, one part glucose and two of honey. No. 3, one part of glucose and three of honey. No. 4, pure honey.

James Heddon—That is what I was telling you. You say that the sample with one-half glucose is of but little honey flavor. Suppose that the honey had been strong, fall honey instead of clover honey, don't you see that the glucose would have improved it?

There was also a bottle that had held honey, but it was so nearly empty that only a spoonful or two could be obtained. The committee did not get enough from this to be able to give a report. One thought it was basswood honey. Mr. Heddon thought it was Florida honey from some sort of magnolia. W. Z. Hutchinson thought it California honey. Prof. Cook then said: "That is the bottle that had the sugar-honey in. That is all that I could find. The rest had been used in making analyses."

James Heddon—I don't understand how the bees add that flavor.

What Will Michigan Bee-Keepers Do in Exhibiting Bees and Honey at the World's Fair?

Mr. Woodman, the Manager of the Agricultural Department of Michigan's show at the coming Columbian Exposition, came before the convention, and asked what bee-keepers expected, and what they could do.

After some discussion the following resolutions were passed:

Resolved, That we, the Michigan Bee-Keepers' Association, think it is desirable for the State to make an exhibition of bees and honey at the Columbian Exposition.

Resolved, That in our judgment it will require at least $1,000 to make a creditable exhibit of the honey and bee-products of the State.

Resolved, That we think it imperative that an expert be employed to make the collection and exhibit, and we earnestly urge that H. D. Cutting, than whom there is no more competent man in the country, be appointed.

Mr. Woodman—There is no such amount of money that can be used. Your demands are not exhorbitant, but your only hope will be in future appropriations. If further appropriations are made, the purposes should be specified. The State Grange is now in session, and will ask the legislature to make more appropriation for use at the World's Fair.

Upon motion of Prof. Cook, Senator-elect Geo. E. Hilton was made a committee to look after legislation for this purpose.

Carniolans—Have they Come to Stay?

This was the title of an essay by E. R. Root. It was as follows:

My question is of such a nature that I scarcely know whether I am able to answer it except evasively, by saying, with Dr. Miller, "I don't know." But I presume your Secretary means that I shall give briefly the good and bad qualities of the Carniolans; and, after placing the two in the balance, decide whether they shall be recommended to bee-keepers generally or not. I will attempt to give only their general characteristics, good, bad, and indifferent, and leave the other problem to the convention.

Briefly, what are their good qualities? First and most prominent, is their inclination to deposit little or no propolis. In these days, when fixed or spaced frames are receiving such general adoption, it is very desirable to have a bee that is content to let the gluing business alone. Again, I find the Carniolans to be early breeders, and rather more prolific than the average Italians, though not so much so as the Cyprians and Holy Land bees.

As to their honey-gathering qualities, I think they average fairly with the yellow race. The cappings of their combs are no whiter; in fact, I am inclined to think that they have a more water-soaked appearance. In shaking

off for extracting, they do not drop off so readily as do the black bees and Holy Lands and Cyprians, but rather more so than Italians.

Before we come to their bad qualities, let us sum up, in a word, their good qualities: Non-propolizers; early breeders; easily shaken from the combs; average honey-gatherers.

Now for the other side, and I fear that before I get through, some of my Carniolan friends will take issue with me: The progeny of all Carniolan queens that we have ever had from different breeders—some from different bee-keepers in the United States, and some from Carniola direct—while they have not been as vicious and cross as the Punics and Cyprians, were decidedly more vindictive than the average Italians. I know that their breeders have generally pronounced them to be gentle, but we have never found them to be so, except in one case, I believe, where the progeny of one queen was as gentle as our average Italians. I have never been stung any worse by any bees than by Carniolans; although I am free to acknowledge that there are bees more vicious, such as Cyprians, Holy Lands, and Punics—or Tunisians, as they are more properly called.

Carniolans are said to be inveterate swarmers. Some of the colonies that we have had have borne out this assertion, while others have shown no more inclination to do so than Italians.

There is another quality that I have not seen in all the Carniolans, and that is, they are inclined to run down the combs and form in festoons, very much like black bees—in fact, act wild; but this may have been because they were crossed with the common black bees; and right here it may be proper to remark that it is almost impossible to tell by their appearance, crosses of Carniolans and black bees from the pure Carniolan stock. This is really an unfortunate condition of things, because, in breeding such bees, it is very hard indeed to determine when we have the pure stock, because the black bees are generally so common throughout the country.

In view of the facts, *pro* and *con*, I do not think it would be advisable to recommend them to bee-keepers generally; and at present I know of no large apiaries outside of queen-rearing yards where Carniolans largely predominate. If this is the case, and Carniolans have been tried in hundreds of apiaries, it looks as though the race had not come to stay—nothing but the future can decide. As in everything else, if they have real merit they will come and make America their home; if not, they will be relegated to the past, like Cyprians, Syrians and Egyptian bees.

E. R. ROOT.

No discussion followed the reading of the essay. The association then proceeded to the election of officers, which resulted as follows:

President—R. L. Taylor, Lapeer.

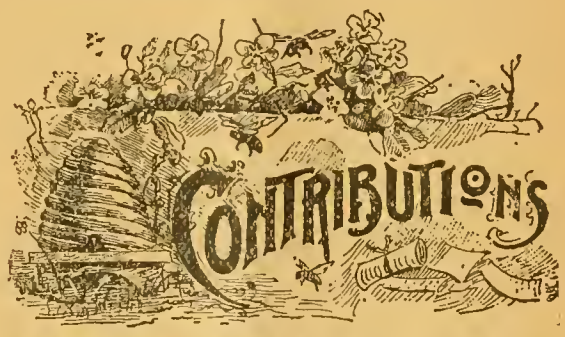
Vice-President—J. A. Pearce, Grand Rapids.

Secretary—W. Z. Hutchinson, Flint.

Treasurer—M. H. Hunt, Bell Branch.

Flint was decided upon as the next place of meeting. The convention then adjourned to meet next December at the call of the Executive Board.

W. Z. HUTCHINSON, *Sec.*



Does the Will of the Queen Decide the Sex of the Egg?

Written for the American Bee Journal

BY DR. C. C. MILLER.

I was quite interested in that reply, on page 724, of Mrs. Atchley, to the question why a young queen gets mixed up in her way of laying eggs. Mrs. Atchley deserves the credit, I think, of being first to mention the fact, that "just about the time the queen is hatched, or a little before, there are some workers that begin to lay, etc."

I have an impression that Mrs. Atchley generally knows what she is talking about, but I think it has generally been believed that laying workers are not tolerated in a hive until after the colony has not only become queenless, but after all means of rearing a queen have disappeared. So in a case where there is such a manifest departure from time-honored traditions, there ought to be pretty clear proof. If a case has been found in which a queenless colony with-

out having given to it any brood other than that left by its own queen before her departure, has been found to have laying workers before its new queen has commenced to lay, then we must bid good-bye to the old tradition.

It cannot be disputed that traditions are not the most reliable things in the world. I think a little investigation will make Mrs. Atchley lose respect for another tradition, which locates the spermatheca of the queen "on one side of the forked stem" in such way that only the eggs that pass down one of the stems become impregnated. The fact is that the spermatheca is located on the common oviduct, after the union of the two oviducts that proceed from the two ovaries. So a worker-egg may come from either side, and also a drone-egg.

Even if careful dissection had not shown that the spermatheca is attached to the common oviduct, a little reflection might make it appear rather unreasonable to think the drone-eggs come from one ovary and worker-eggs from the other. For the two ovaries are always represented as being equal in size, in which case there ought to be as many drones as workers in a hive, and we know there are only a few hundred drones to the thousands of workers.

But that doesn't change the practical result. For it would be just as easy for the queen to decide at will from which ovary an egg should come, as to decide at will when an egg should, and when it should not become impregnated as it passes through the common oviduct. And while you are in very good company, Mrs. Atchley, in thinking that just "as you can move your right or left hand," so the queen can will to lay either kind of egg, yet is it anything more than a guess?

Prof. Cook thinks with you, and Cheshire in speaking of the view held by Wagner and Quincy that mechanical pressure is the agent in deciding the sex of the egg, says, "This notion, so repellent from its bald crudity, is shown to be utterly without foundation." Yet at the risk of being thought to harbor baldly crude ideas, I must say that I cannot see that Messrs. Cheshire and Cook give us satisfactory proof that the kind of eggs is entirely a matter of the queen's will. To be sure, Cheshire says that experiment proves it, because if a colony has only drone-comb workers will be reared in drone-cells. But he does not tell us that in such cases the bees never narrow the mouth of the cell so as to make it nearer the diameter of a worker-cell.

Dadant cautiously says, "It is very difficult to admit that the queen is endowed with a faculty that no other animal possesses, that of knowing and deciding the sex of her progeny beforehand." On the whole, I think it is pretty safe to say that this is one of the things we don't know.

CRUEL DR. GRESS AND BEE-STINGS!

Why, Mr. Editor, do you allow Dr. Gress to make such unpleasant suggestions as that on page 730, where he intimates that it might be a proper thing to apply from 6 to 20 stings to Mr. Root or me? Don't you know, Doctor, that stings hurt, even if they don't swell or last long? It may be all right to have Mr. Root thus numerously pierced, as a matter of experiment, and for the advancement of science no one should object to a little pain, and I am willing to sacrifice friend Root in the cause of science, but I protest that one is enough, and it is very unkind in the doctor to want me to suffer.

Marengo, Ill.

[How kind it is of Dr. Miller to consent to the sacrificing of Bro. Root in the interest of science! Perhaps, he too, might object, especially if he consulted his own feelings at all. For once our good friend, Dr. Miller, didn't say, "I don't know" about it, when it was suggested to numerously perforate his epidermis for the advancement of medical science.—ED.]

Pass the "Pure Food Bill," then Enforce the Law.

Written for the American Bee Journal

BY J. R. COMMON.

As a member of the National Bee-Keepers' Union, I now wish to give my opinion as to the advisability of enlarging its duties so as to include getting laws passed to punish the adulteration of honey.

As the Paddock Pure Food Bill is now before Congress, no time should be lost in assisting those that are now trying to get the measure passed. If it becomes a law, the Bee-Keepers' Union should see that it is enforced as far as honey is concerned. There has not been any law agitated in many years that would be of greater benefit to the whole country at

large, as that would be, if it were passed and enforced.

It is a well known fact that there are a large number of diseases that were unknown years ago, especially nervous disorders, lung and heart troubles; it is a well known fact that large quantities of canned goods, prepared foods, etc., are largely adulterated; also certain injurious drugs are used to preserve them in any climate; it is also understood that the drug mostly used is salicylic acid, which the medical profession claim is one of the most injurious things people can use if they are subject to heart or lung troubles. As large quantities are used, it is easy to see what makes so many unhealthy people in this country. A son of one of my neighbors worked in a canning factory a while last fall, and he says if people knew how canning was done, they would never eat any more canned goods.

By all means, let the Bee-Keepers' Union put its shoulder to the wheel, and see that honey adulteration and the sale of adulterated honey be made dangerous and unprofitable.

Angelica, N. Y.

[We refer the reader to an editorial on this subject on page 39 of this number of the BEE JOURNAL. Let all read it, and then act.—ED.]

Some More Experience with the "Punic" Bees.

Written for the American Bee Journal

BY A. C. MATTHIAS, M. D.

Perhaps my experience with the "Punics" may be interesting to at least some of the readers of the AMERICAN BEE JOURNAL.

I procured a queen and introduced her on Oct. 28, 1891. She filled the frames with brood early in the spring, and soon had her hive chock-full of young bees—in fact, she proved to be a "champion" breeder.

On June 20, 1892, she put out a fine swarm, which I hived. On June 25th, swarm No. 2 came out—a strong one—that I hived. On July 2nd, swarm No. 3, also a good one, which I also hived. On July 4th, swarm No. 4 turned out. I destroyed the queen, and returned the bees to the hive. On July 6th, swarm No. 5, which was a small one, came out, and I also returned it after killing the queens.

Swarms Nos. 1, 2 and 4 had each one queen. No. 3 had 2, and No. 5 had 3 queens. On July 8th I picked up 4 virgin queens on the outside of the hive containing the Punic queen; on the 9th, 2, and on the 10th, one, making a total of 15 queens she hatched out during the season. Those picked up on the outside were all crippled, having been driven or carried out.

The swarms hived are all hybrids, the Punic queens having been fertilized by my Italian drones.

Suffice it to say, I got no surplus honey. The bees are the toughest customers to deal with I ever handled; the least touch on the hive sets them in an uproar; as Bro. Root says, they are "little black devils," and fully answer the description in handling, that he says his do. I have decapitated the queen and introduced an Italian.

The three hybrids (Punic and Italian) I shall watch closely, possibly there may be some improvement over either or both races.

Yes, they are good defenders of their hives, but the worst robbers I ever saw. They are eternally "fooling around" other hives, trying to slip in, not only in my apiary, but neighbors two miles away have discovered them around the entrances of their hives. Hereafter I shall stick to Italians. They are good enough for me.

Gilboa, Ohio.

Can Bees Hear?—Their Sense of Smell.

Written for the American Bee Journal

BY G. P. HACHENBERG, M. D.

The opinions expressed on this subject in Query 845 (page 630), is an interesting page of the JOURNAL. Mr. Doolittle's laconic answer in the negative specially attracted my attention.

We have reason to believe that the bee has no tympanum, and if it had one in proportion to its body, it would be useless; and there is nothing useless about insect or animal beings. The function of a tympanum is to effect vibration, and is an instrument that only performs this office within certain limits. When it is too small, a mere punctum (as it would be in the bee, if it existed), it would cease to be a tympanum of hearing. The tympanum is like a steel spring, if the latter is too short or too long, it has no oscillation, and when it comes down to a mere point, it is no longer a spring.

The bee does not hear by an ordinary living apparatus, yet still it is conscious of sound; but its recognition is through the sense of touch—a hyperæsthesia of the external organism of the bee. Under the microscope you will see a thousand setæ or bristles over the body of a bee, sticking up, that serve as so many tuning forks. This fuzz subject to vibration attached to an exceedingly sensitive body, serves the functions of the tympanum.

It may be strange to say that the sense of smelling is an auxillary to the sense of hearing in a bee, and accounts why many sounds are unnoticed by them. Let any offensive object approach them with a sound, they are up in arms at once. The olfactories of the bee is one of the most delicate in its execution found in nature. It is from an organism where minuteness will not impair its function. It is in the order of things, any sound that attracts their attention, the first thing they do is to nose for effluvia to ascertain its nature. Sound travels faster than odor, and it is always the former that usually draws their attention to the latter.

In connection with our subject, it is interesting to study the habits of the bee robber. Its exterior is smooth and shining, and without a seta on its body it is evidently "deaf and dumb." It hears nothing—no angry warning will keep it out of any hive, for it hears it not; and in the open air it is a non-combatant, and only draws its sword when you squeeze it with more than gentleness.

To be very minute about this matter, the vibration of the setæ of the bee, or any insect, and even worms having them, alone would not excite the nervous action of hearing. They are but the agency to apply an electrical excitant (always associated with sound) for nervous recognition. There is a law in electricity I once advocated in the *Electrical Review*, that around all sharp points (even of an organic nature) exposed to the air, through any action whatever on them, will attract electricity, and serve as an excitant to growth, or cause sensation, as we have it in the process of hearing through the setæ of the bee.

These bristles in animal life likewise serve to favor the sense of touch. This is well demonstrated in the feline kind that seek their prey in the dark. With them they are long, and but few of them, and are located on the face.

Austin, Texas.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Worth $100 a Year.

I cannot get along very well without the "old reliable" AMERICAN BEE JOURNAL. When I first commenced keeping bees they would swarm and swarm, and keep on swarming, and that was about all I did get. I was puzzled to know how others got so much honey. Finally I subscribed for the AMERICAN BEE JOURNAL, and in that I found a letter from a lady bee-keeper, telling how to prevent after-swarms. That put $100 into my pocket the first year.

A. M. FISK.

North Freedom, Wis., Dec. 23, 1892.

Rambler, on California Bee-Keeping.

Some parts of this State have received bountiful rains, which makes the bee-keepers feel happy; though back near the mountains we have had but little thus far, but are at present having hopeful indications.

I am learning something new about California all the time, and find it a wonderful State for bee-keeping, and many portions of it are producing honey by the carload, and making no noise about it.

In this portion of the State, the rapid settlement of the valleys is driving the bees back into the mountains. But the grand old mountains are there to stay, and there the apiary finds a safe and profitable refuge. JOHN H. MARTIN.

Redlands, Calif., Dec. 23, 1892.

Uniting Colonies, Etc.

After wintering my bees in the cellar pretty successfully, I began in the spring of 1892 with 100 fair Italian colonies of bees, but I soon saw that the conditions were very unfavorable for building up my bees for successful work, the spring months were very cold and wet.

Though we had an abundance of fruit and white clover bloom, my bees did not store any surplus white honey until after harvest, and then got but about 1,500 pounds. The fall flow was much better. My entire crop for the season amounted to about 4,000 pounds.

Swarming was fair for the desperately poor season. I increased the number to 150 colonies, but in the fall united the weaker with the stronger, to the number of 125 colonies, and this is the way I did it:

I use the Heddon eight-frame Langstroth hive. With an extension-bit and brace I bored a 1½ inch hole in the bottom of an empty hive, then placed it on the colony I wished to unite the bees with, having first removed the surplus cases, and placing a queen excluder on the brood-chamber. I use in all my uniting of bees, and introducing of queens, whether they be virgins or fertile queens, green or fresh catnip leaves, placed over the wood in the fire-box of my Bingham bee-smoker. It is the best and most convenient means I ever used.

DANIEL WHITMER.

South Bend, Ind., Dec. 20, 1892.

A Poor and a Sad Report.

My report for the past year is the poorest one I ever made. In the fall of 1889 I put into the cellar 110 colonies, and by the next spring I only lost one. In the fall of 1890 I put in 120 colonies, and only lost 2 by the next spring, and the rest were all in good condition. I obtained 8,000 pounds of honey, and in the fall of 1891 I put into the cellar 130 colonies. The next spring, when I took them out of the cellar, some were dead, and the rest dwindled down to 75 by the time they could get enough to live on. They have now increased to 95, and because I prevented swarming this year, I secured about 200 pounds of honey. It was a very poor season in my location. They gathered just about enough to keep the queen laying, but the bees are in good condition now, and I live in hopes of better things next year.

The reader of this report will properly call it a heavy loss, and so did I until Aug. 27, 1892. Since that date I have learned that heavier losses can occur than the foregoing; for on the above date I lost my only daughter—Lydia Koehler. She died with diphtheria, at the age of about 10 years. One hour before she left us, she prayed to God to leave her with her papa and mamma and her brothers; still the Great Shepherd took her away from us to a better land, where the storms of this life will never reach her any more, and where all diseases are unknown—to a home in Heaven. What a joyful thought.

A home in heaven! where our friends are fled
To the cheerless gloom of the mouldering dead,
We wait in hope of the promise given;
We will meet up there, in our home in heaven.

LOUIS C. KOEHLER.

Tisch Mills, Wis., Dec. 20, 1892.

[Dear friend, the latter part of your letter is indeed a sad report, and yet what great satisfaction is in the thought that your beloved Lydia is at home and at rest forever. Our prayer is that the Great Comforter of all the sorrowing and bereaved may be your constant support in this time of your sadness and distress. May you all so live as to some day meet your little "guardian angel" in that better and brighter home beyond earth's cares and sorrows.—ED.]

Bees Did Better than Ever.

My bees did better this year than they ever did in the years I have kept them. I had 10 colonies, spring count, and 5 swarms during the season. They were late in swarming, and only one of the swarms stored any surplus honey. The average, per hive, was 25 pounds, spring count. My hives were all in good order, and worked like a charm.

I winter my bees on the summer stands. I have cases outside of the hive that takes 3½ inches of chaff over the top, with some loose, porous cloth that will keep the dirt out. Then I put six inches of chaff on the top, or grass cut with a lawn mower. I don't believe my bees had over 15 pounds of honey each last winter. They had never stored much honey, and I did not care whether they lived or died, but they came through all right, and did better than ever before.

TELAH C. WHITING.

Athens, N. Y., Dec. 23, 1892.

Wintering on Honey-Dew, Etc.

The past two seasons have been very discouraging for bee-keepers in this county. I did not get a pound of white honey. The crop of white clover (which is our only source for white honey) was rather short, but what there was did not seem to have any attraction for the

bees. I got several hundred pounds of what I supposed was honey-dew. It was not fit to eat, and therefore was not fit to sell, so I fed it back to the bees, and it is all they have for winter stores. They wintered nicely last winter on it, and I think they will do the same this winter, unless we have a much harder winter than last winter was. I have them well packed on the summer stands, so they can have a good cleansing flight any pleasant day that occurs, which I think is necessary with such stuff as they have to live on.

All the honey we have in our market here is imported from other parts of the country, and I think none of it is pure honey, but is syrup made from sugar and mixed with glucose, and fed to the bees, that fix it up very nicely—so nicely do they do their part of the fraud that it takes more than an ordinary expert to detect it by its looks.

Middlemen may adulterate extracted honey, but it is not they who do the mischief with comb honey, but the beemen themselves; and how are we going to help it? I think it will be about as hard to stop it as it will be to stop men from sinning. But I console myself that as long as I am able to attend to my bees, I can have pure honey for myself and family. WM. B. MCCORMICK.

Uniontown, Pa., Dec. 22, 1892.

A Criticism Corrected.

Mr. H. Fitz Hart, on page 733 of the BEE JOURNAL for 1892, erroneously asserts that "Mr. C. J. Robinson makes the assertion that there is no foul brood virus in comb-cells." What I asserted on the page he refers to—506—reads thus: "Pure honey, while in comb-cells, never is—never was—charged with foul brood virus."

He further says: "As this was promulgated eight years ago by Mr. Frank Cheshire in an essay on foul brood read before the British Bee-Keepers' Association, Mr. R.'s discovery is too late for him to claim any credit." Mr. Cheshire's essay read: "I have searched most carefully (with the microscope) in honey in contiguity with cells holding dead larvæ; have examined samples from colonies dying out with rottenness..... yet in no instance have I found a living bacillus;" thus confirming my allegation that foul brood virus does not exist in honey—the point I made, and gave the cause why the virus does not exist therein. I have not laid—directly or otherwise—any "claim" of priority of discovery concerning foul brood virus in honey, but I here make the assertion that I am the first who recorded that all honey is charged with formic acid, which destroys the vitality of foul brood bacillus and spores that become immersed therein. This was the theme of my article which Mr. Fitz Hart criticised.

I may be allowed, in connection with Mr. Fitz Hart's allusion to Mr. Cheshire's writings, that years ago, prior to his having "promulgated" anything concerning foul brood, I wrote an "essay on foul brood," which was read before the Bee-Keepers' Association, and published in two or more bee-periodicals, wherein I set forth that foul brood is a germ disease, and which claim was disputed by the solons. Later, Mr. C. claimed to have discovered bacillus in foul brood, and he assumed to coin a name for them, and later still he claims to have discovered a different nation of foul brood germs—smaller and not as wicked, cannibal-like as his first found bacillus. The facts are, germs pervaded all rotting brood, but only such as feed upon animate larvæ are foul brood virus. A glass cannot aid the eye to distinguish foul brood virus from other germs.

Richford, N. Y. C. J. ROBINSON.

My Experience with Bees.

My success with bees is as follows: Three years ago a swarm alighted on a tree within three rods of my house, which I secured on Aug. 1st. They stored honey enough to winter on, and the summer of 1890 I increased them to 2 colonies, and obtained 91 pounds of honey. In 1891 I increased to 7 colonies. and got 65 pounds of honey; the past season, or 1892, I increased to 13, and secured 442 pounds of honey, mostly in one-pound sections. Bees are in good condition at this date, in the cellar. I have wintered them in perfect condition each winter. I will give my method of wintering in detail, if desired.

AUSTIN REYNOLDS.

Cataract, Wis., Dec. 26, 1892.

[If not too long a description, we should be pleased to publish your method of wintering bees.—ED.]

Bee-Stings and Rheumatism, Etc.

About three weeks ago I had rheumatism in one knee so that I could scarcely walk. I caught a bee and made it sting me on the knee. I felt better in a few hours. The pain all left me long ago. I

have had as many as 40 stings in one day, and would not feel any worse; if any difference, I would feel better in a few minutes. I have handled bees for seven years, and have met with but two cross colonies that I would call cross; they reminded me of yellow jackets more than anything else.

I attend to my neighbors' bees, who have them in soap and cracker boxes. Some of them have a few dovetailed or Simplicity hives. I notice that the bees in soap and cracker boxes winter just as well as those in good hives. They let them stay out in the orchard all winter. One man wintered a colony in a potato basket last winter; I transferred it to a good hive, but it had wintered in fine condition. I leave my bees on the summer stands all winter, as I think that they do as well there as in the cellar.

C. C. ZINN.

New Windsor, Colo., Dec. 27, 1892.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

Jan. 13, 14.—S.W.Wisconsin, at Boscobel,Wis.
Edwin Pike, Pres., Boscobel, Wis.

Jan. 12-14.—Minnesota, at Minneapolis, Minn.
A. K. Cooper, Sec., Winona, Minn.

Jan. 16, 17.—Colorado, at Denver, Colo.
H. Knight, Sec., Littleton, Colo.

Jan. 18, 19.—Indiana, at Indianapolis, Ind.
G. P. Wilson, Sec., Tolgate, Ind.

Feb. 7, 8.—California, at Los Angeles.
John H. Martin, Sec., Redlands. Calif.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon..Dowagiac, Mich.
SEC'Y AND MANAGER—T. G. Newman, Chicago.

There is Not One Person but what can secure at least *two* new subscribers to the BEE JOURNAL, and get the splendid Premium offered on page 37. Try it.

AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

199 RANDOLPH ST., CHICAGO, ILLS.

TO CORRESPONDENTS.

The Bee Journal is sent to subscribers until an order is received by the publishers for its discontinuance, and all arrearages are paid.

A Sample Copy of the BEE JOURNAL will be sent FREE upon application.

How to Send Money.—Remit by Express, Post-Office Money Order, or Bank Draft on New York or Chicago. If none of these can be had, Register your Letter, affixing Stamps both for postage and registry, and take a receipt for it. Money sent thus, IS AT OUR RISK; otherwise it is not. Do not send Checks on Local Banks—we have to pay 25 cents each, to get them cashed.

Never Send Silver in letters. It will wear holes in the envelope, or may be stolen.

Make all Money Orders Payable at Chicago, Ill.—not at any sub-station of Chicago.

Postage Stamps of any denomination may be sent for any fraction of a dollar; or where Money Orders cannot be obtained, stamps for any amount may be sent.

Subscription Credits.—The receipt for money sent us will be given on the address-label of every paper. The subscription is paid to the END OF THE MONTH indicated.

Do not Write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Emerson Binders, made especially for the AMERICAN BEE JOURNAL, are convenient for preserving each weekly Number, as fast as received. They will be sent, post-paid, for 50 cts. each. They cannot be sent by mail to Canada.

Lost Numbers.—We carefully mail the BEE JOURNAL to every subscriber, but should any be lost in the mails, we will replace them if notified before all the edition is exhausted.

Always State the Post-Office to which your paper is addressed, when writing to us.

Special Notices.

The Date on the wrapper-label of this paper indicates the *end* of the month to which you have paid for the JOURNAL. If that is past, please send us one dollar to pay for another year. This shows that Mr. Porter has paid his subscription up to the *end* of December, 1893:

Wallace Porter Dec93
Suffield, Portage co, Ohio

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, January 7th, 1892 :

CHICAGO, ILL.—Demand for comb honey is quite good, and choice lots bring 18c., others in proportion. Extracted, 6@9c,, according to what it is—sales chiefly at 8@9c.
Beeswax—23@25c. R. A. B.

CHICAGO, ILLS.—Honey of all kinds is plentiful excepting choice white comb. There is no activity, owing to the closing of the year. A good business is expected after New Years. Comb—white, 16@17c. ; dark, 14c. Extracted—white, 9c.; dark, 7@8c.; Southern, 75@80c. per gal. J. A. L.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

CINCINNATI, OHIO.—Demand is good for honey, with scant supply of all kinds. Extracted brings 6@8c., and comb sells at 14@16c. for best white. Although honey is scarce, there is no demand for dark comb.
Beeswax—Demand good, at 20@25c. for good to choice yellow. Supply good. C. F. M. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Comb honey is selling slow, very much slower than we like to have it, and it is our experience that when we start honey in at a high price, it sells hard right through the season. We quote our market nominally at 17@18c. for best white honey, 1-lb. combs, Extracted, 8@9c.
Beeswax—None on hand. B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

NEW YORK. N. Y.—Our market is quiet. Arrivals are freely, and the demand limited. We quote : Fancy white, 1-lbs., 15@16c. ; 2-lbs., 12@13c. Fair white, 1-lbs., 12@13c. ; 2-lbs., 11c. There are large stocks of buckwheat honey on our market, and we know of two lots of fancy 1-lbs. that sold at 8 and 9c. per lb., respectvely. We quote 1-lbs., glassed or in paper-boxes, 10c. ; unglassed, 9c. Extracted is in good demand at 8@8½c. for basswood and white clover ; 6@6½c. for buckwheat ; 70@75c. per gallon for Southern.
Beeswax—Dull at 25@27c. H. B. & S.

ALBANY, N. Y.—Honey market some quieter and prices some easier. White clover, 15@17c.: mixed, 14@15c.; dark, 10@11c. Extracted, white, 8@8½c.; mixed, 7@7½c.; dark 7c. Stocks light of both comb and extracted.
Beeswax, 27@28c. H. R. W.

"Bees and Honey"—see page 37.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT, 161 South Water Street.
J. A. SIMON. 44 & 46 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & CO., 14 & 16 Hennepin Avenue.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Convention Notices.

INDIANA.—The Indiana State Bee-Keepers' Association meet at Indianapolis, Ind., on Jan. 18 and 19, 1893. G. P. WILSON, Sec.
Tolgate, Ind.

COLORADO.—The Colo. State Bee-Keepers Association will hold their annual meeting in Denver, on Jan. 16 and 17, 1893. Election of officers and other important business will come before the meeting.
Littleton, Colo. H. KNIGHT, Sec.

CALIFORNIA.—The 2nd annual meeting of the California State Bee-Keepers' Association will be held in the Chamber of Commerce in Los Angeles, Calif.. on Feb. 7th and 8th, 1892. Programmes will soon be issued, for which address, JOHN H. MARTIN, Sec.
Redlands, Calif.

NEW YORK. — The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.
H. C. FARNUM, Pres., Transit Bridge, N. Y.

WISCONSIN.—The Southwestern Wisconsin Bee-Keepers' Association will hold its next annual meeting as Boscobel, Grant Co., Wis., on Jan. 13 and 14, 1893. All members of the Association are requested to be present as the following officers are to be elected; President, Vice-President, Secretary, Assistant Sec., and Treasurer. Blank Reports will be sent each member, for the year 1892, with instructions. A cordial invitation is extended to all bee-keepers, and especially to those that would like to join with us. Each member will be notified at least one month before the meeting.
Boscobel, Wis. EDWIN PIKE, Pres.

Great Premium on page 37 !

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., JANUARY 19, 1893. NO. 3.

Pennsylvania bee-keepers expect to make a good exhibit at the World's Fair this year. Read their advertisement on page 68 of this number of the BEE JOURNAL.

Please Don't send to us for bee-keepers' supplies. We do not deal in them. If in need of anything for the apiary *except a good bee-paper*, just send for the catalogues of some of our advertisers. They will be glad to fit you out, and do it well.

The Apiarian Exhibit of the State of Illinois at the Columbian Exposition this year may be all right yet. Hon. J. M. Hambaugh and Mr. Jas. A. Stone, respectively President and Secretary of our State Bee-Keepers' Association, were to meet, on Jan. 10th, a committee from the Illinois State Horticultural Society, for the purpose of arranging to join forces to urge the Legislature for an appropriation for the exhibit of both societies at the World's Fair. We feel almost certain that the Legislature will grant their very just requests.

That Sugar-Honey Fraud.—Although we have positively refused to permit a discussion of the subject of sugar-honey production in the BEE JOURNAL, yet owing to the great number of condemnatory letters we are receiving, we have decided to say something more about it, and allow our correspondents to express themselves on the only side of the subject—for there is but *one* side—and that is the one of uncompromising opposition and condemnation of even the slightest suggestion of feeding sugar to produce honey.

We do not believe so much in heaping criticism upon the careless few who have so foolishly helped on the nefarious scheme of sugar-honey production, but we do think that we cannot come down too hard upon the idea itself. And if this lollipop business should be persisted in, we are ready to throw against it, and upon it, all the power and force that the old AMERICAN BEE JOURNAL may be able to wield.

The very suggestion of the production and sale of comb honey from feeding cane-sugar is the most prodigious wrong against the honorable pursuit of bee-keeping ever perpetrated; and that such ideas should be advanced and defended by persons *within* the ranks of honey-producers themselves, is entirely beyond the comprehension of sane mortals. Why, the notorious Wiley fable is indeed a "pleasantry" compared to the flood-gate of ruination that has been opened

by those who have so foolishly advised bee-keepers to adulterate their honey by compelling the bees to store sugar! If this be "advanced bee-culture," the less bee-keepers and all others have of it, the better for them and the whole world.

We present here some of the many letters received in reference to the subject, which we desire should be read very carefully. The first was not intended for publication, so we omit the writer's name and address. We feel certain he will not object to having it appear thus:

FRIEND YORK:—When I received the last BEE JOURNAL, and saw the stand you took on the sugar-honey question, I felt like shouting "Good boy!"

Many of my idols in apiculture have fallen in the past year—those whose judgment I most relied upon. Let them now discuss the selling of glucose for sugar, cotton-seed oil for lard, suet for butter, and uphold it, too. They might also include counterfeiting money—it is as good as genuine until discovered to be bogus. All are equally honest, I think.

When I saw on page 849 of the BEE JOURNAL for Dec. 29th, the stand you and Mr. Newman took, I could not help writing and saying, "Shake!" All honor to the AMERICAN BEE JOURNAL!

Minnesota, Dec. 31, 1892.

FRIEND YORK:—I wish to commend your course in the sugar-honey discussion. I can see no good result whatever from the discussion. Its principal use has been to give hints to would-be imitation-honey producers.

The Devil does not need any aid. Can we not profit by the experience of the dairy people, in their fight with oleomargarine, etc.? Very respectfully,

Tiffin, O. J. F. MOORE.

FRIEND YORK:—I notice that you are ignoring the sugar-honey discussion. It is a great surprise to me that any of our leading bee-keepers should favor such a business, and try to prove its advantages. It would be the death-knell to the bee-keeping interest of this country.

Respectfully,

N. P. ASPINWALL.

Harrison, Minn.

DEAR MR. EDITOR:—I beg to express my satisfaction at the course taken by the AMERICAN BEE JOURNAL in reference to that very imprudent, ill-advised discussion of the "sugar-honey" question. The AMERICAN BEE JOURNAL, since I have known it, has always been the uncompromising foe of all forms of adulteration, and has done invaluable work toward its suppression. I regard the proposed "sugar-honey" as one of the worst forms of adulteration—worst, because it emanates from the producers themselves. ALLEN PRINGLE.

Selby, Ont., Jan. 2, 1893.

MR. EDITOR:—What use is there to fight adulteration of honey when professors and bee-paper men teach their constituents how to adulterate, and tell us that sugar is honey after passing through a bee's honey-sac? This is the most contemptible act that honest bee-keepers have ever seen, or heard of. All adulteration together, of honey, so far, has not done as much damage, or made and created as much suspicion.

The newspapers already have gotten hold of it. A lawyer (an old acquaintance), to whom I have sold honey for many years, said to me the other day, "How much sugar have you sold me all these years?" I asked him where he read about it? "Ha! in one of my newspapers," he replied. "I am going to make my own honey after this."

Then he explained to me that sugar was honey; that a certain professor and his students had made experiments, and found that no difference could be noted, etc. Now, how are we going to stop the slanderous talk of that professor and that bee-paper man? I have almost lost confidence in men, and about decided to keep bees without literature—so as to keep cool and silent, and not get excited when we have to see such lies in our bee-papers. The only reason I subscribe for a few bee-periodicals this year is, that they are not *all* on that side, and I felt good when I read your editorial and noted your stand-point on this senseless act.

Every experienced bee-keeper knows that sugar cannot be changed to honey by the bees. It is sugar first, and sugar last. It is a shame for learned men to be so stupid—yes, we may say dishonest. I may be a little harsh, but I cannot help it.

I am afraid our industry has received a blow from which it will not recover for many years, by this sugar-honey swindle. Those who have advocated the thing, should know better than to threaten the destruction of honest bee-keepers and honey-producers. What

good will a "Pure Food Bill" do under these circumstances? Ridiculous!

Yours very truly,
C. THEILMANN.

Theilmanton, Minn., Jan. 2, 1893.

We shouldn't wonder if your blood began to "boil" before you half finished reading the foregoing letters. Ours did; and then we felt sorry for those who had been advocating the practice, and who were so short-sighted and careless; for, personally, we have respected them so highly, and long ago tried to show at least one of them the error of his way in this matter. We endeavored to make clear to him the folly and great harm of the thing, though we felt all the time that he should know better. We think they all know better *now*, and no mistake about it, either!

Although having said what we have above, we want to say right here, that *we* do not believe that any one of those who have championed this unfortunate course *intended* to injure the business of honey-production; but the evil has been done, nevertheless, and nothing that they can do now, can possibly prevent the untold injury that must inevitably result to the industry of bee-culture. How much better it would have been to have "kept in the middle of the road," than to have permitted themselves to be "switched off" on such a dangerous "side-track."

But what good to lock the stable *after* the horse is stolen? Why cry over spilt-milk? The only thing that can be done now is to try to counteract the evil effects of the whole pernicious affair, and try to "grin" while bearing the consequences, which cannot help being so universally disastrous to the pursuit of bee-keeping.

Let all sincere and honest honey-producers stand together, and victory over all such slanders—and even over the Devil himself—will yet be theirs.

After the foregoing was in type, we handed a proof of it to the General Manager of the Union, who writes thus:

FRIEND YORK:—I have read the proof you gave me, and most fully endorse the positions taken by you and your correspondents upon the sugar-honey question.

The degredation brought upon honey-producers by this "sugar-honey" abomination, is almost unbearable. The discussion of the subject is *inexcusable*, since it was closed last spring by the frowns of apiarists. To revive it at this time is a *crime* as well as a *blunder*. If it is right to feed sugar and compel the bees to store it in combs in poor seasons, why is it not right all the time? It can't be right. It is a fraud practiced upon the bees; it would compel the bee-keeper to be dishonest, and it would be a dishonorable, fraudulent trick played upon consumers.

One heresy leads to another. The argument is: If bees *make* honey, and it *is* partly-digested nectar—then that nectar may be sugar or glucose at will! But that is all bosh! We all know that it is no such thing! It is precisely the same after having been stored that it was before, and the bees neither digest nor *make* it into honey.

As Manager of the Bee-Keepers' Union, I have received a perfect shower of such letters as those you have printed. The instigators of this nefarious swindle have "sown to the wind," and are now "reaping the whirlwind."

Just think of a person asking to have the Constitution of the Union amended so as to fight adulteration, and within a month to be advising bee-keepers to adulterate their honey with sugar!! It is monstrous for him to say: "I have no doubt that sugar-syrup honey will be produced largely next year.....I have no fear of a market." Away with such lollipop bosh!

If the National Bee-Keepers' Union is to prosecute adulterators, and I have anything to do with it, its most energetic work shall be to prosecute to the full extent of the law, any who may *dare* to offer for sale as honey any of that sugar-syrup swindle.

Consumers must not be trifled with. Their butter must be made from pure cow's milk, and their honey must be pure nectar from the flowers! "Sugar-syrup" must be sold under that name, not honey—just as the law requires oleomargarine to be sold under its proper name—not butter! With the Paddock "Pure Food Bill" as a United States law, these and all other degrading swindles shall "bite the dust."

THOMAS G. NEWMAN.

Chicago, Ills., Jan. 13, 1893.

Bee-Keepers' Union.— Again we wish to call the attention of our readers to that "Voting Blank" on page 4 of the BEE JOURNAL for Jan. 5th. Cut out that sheet, fill up all the blanks, and then send it to Mr. Newman, as he there directs.

We have nothing to say as to whom you should vote for, but if you have not already voted, we would like to call your attention to the following paragraph taken from *Gleanings* for Jan. 1st, which we fully endorse:

Without wishing to disparage the capacity of Mr. James Heddon, the President, we would suggest that, as he is not of the legal fraternity, the Hon. R. L. Taylor, a good lawyer and bee-keeper, be elected in his place. While Mr. Newman is possessed of good legal knowledge, it will be of great advantage to him to be in direct consultation with the next chief officer of the Union.

Keeping Italian Bees Pure.—A subscriber sends in this question for reply:

How can I keep Italian bees pure when my neighbors have black bees within a half mile of me, and won't sell them? S. C.

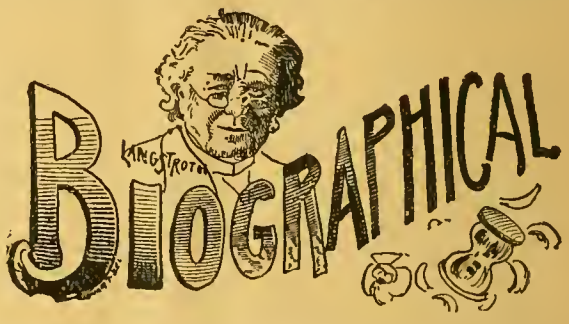
You probably cannot keep them pure, but by constantly weeding out objectionable queens, and occasionally introuucing a pure Italian queen and rearing your queens from her, you will get along as well as many others.

Transferring Bees.—A correspondent in South Carolina asks the following question:

What is the best time to move bees from old box-hives to frame hives? I have 17 colonies in old boxes, which I want to move as soon as it can be done. I also have 8 in frame hives, that I can help the others with. R. C. F.

The stereotyped answer to the question when best to transfer bees, is at the time of fruit bloom. The reason for that is, that at the time of fruit bloom the combs are as nearly empty as at any time in the year when they are gathering honey. The chances for danger from robbers are very much diminished if the transferring is done at a time when the bees are working in the fields, and robbers are not on hand. The lighter the combs are, the more easily they are kept in place until the bees fasten them in.

There is, however, a plan given by James Heddon, that is on the whole better. Wait until the first swarm issues, and hive it in a movable-comb hive. Then on the 21st day after the swarm issues, the last worker brood will be hatched out, and you can transfer with no brood in the way, except some that is very young.



HON. EUGENE SECOR.

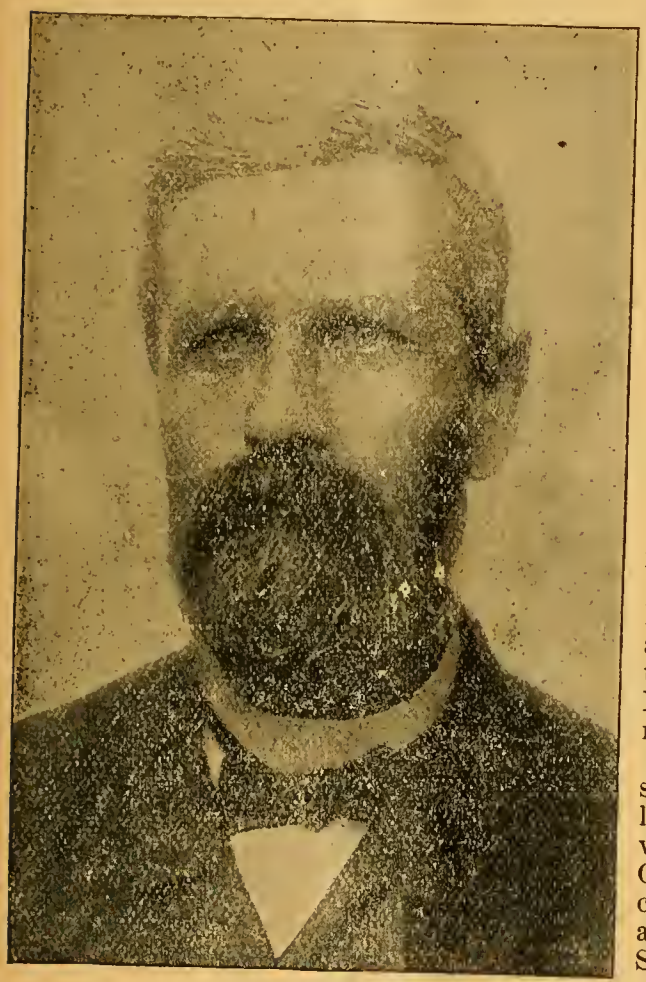
Few men have been so constantly in public life, and in so many different positions, as has Hon. Eugene Secor, of Forest City, Iowa, whose name is so well known to the readers of the AMERICAN BEE JOURNAL. His literary productions, both of prose and poetry, are familiar to all. He has very appropriately been called the "poet laureate" of apiculture. For years he has been among those who have generously undertaken to reply to the queries propounded for publication in this paper, and as to how well he has succeeded in "cracking" the "nuts," we need only to point to the printed record.

Mr. Secor was born on May 13, 1841, and was brought up on a farm, near Peekskill, N. Y., being one of eleven children, all of whom lived to manhood and womanhood. He attended the public school in winter, and worked on his father's farm in summer.

At the age of 21 he went to Iowa, borrowing the necessary money of an older brother who was already located in the West. He went to work at what-

ever he could find to do; learned the mason trade—worked at plastering and bricklaying summers and taught winters.

In 1864, he entered Cornell College in Iowa, but owing to the fact that his brother David wanted to take a hand in the "late unpleasantness"—(he being Treasurer and Recorder of Winnebago county, and Postmaster of Forest City) he left school to take charge, as deputy, of his brother's business, which position he held for two years.



EUGENE SECOR.

In 1866, he married Millie M. Spencer, a native of Ohio, who still lives to charm and bless her beloved. They have four children living, and six have crossed to the other shore, awaiting the "meeting" and the "greeting" of the "loved ones" left behind.

In 1867, Mr. S. was appointed Deputy Clerk of the District Court, and in 1868 was elected to that office, which he held for six years, being elected the last term without opposition. Believing in rotation in office, he refused to run for a fourth term. In 1875 he was elected County Auditor, and was re-elected two years later without opposition.

He was one of the Commissioners appointed by the Court to complete the incorporation of Forest City; was elected its first Mayor, and re-elected three consecutive times, being the only one, up to the present time, who has held the office four terms. He was a member of the Town Council up to 1890, and has been a member of the city school board; is a member of the Board of Trustees of Cornell College, and one of the Executive Committee; also trustee of the Iowa Agricultural College—the latter Board being elected by the State Legislature.

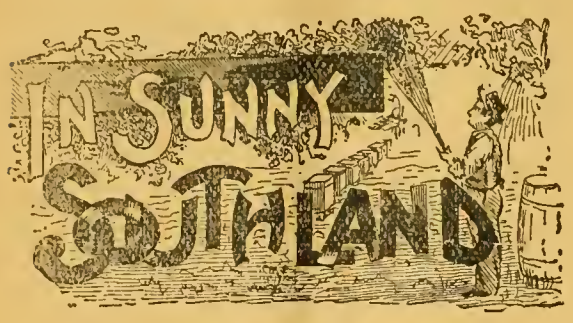
Mr. Secor is a life member of the Northern Iowa Horticultural Society; has also been Director, Vice-President and President, and has charge of one of its experiment stations. He helped to organize the Winnebago County Agricultural Society, and was its first President for two years; is a member of the Iowa Fine Stock Breeders' Association, and President of the State Bee-Keepers' Society. He has just retired from a year's Presidency of the North American Bee-Keepers' Association, whose last meeting was held in Washington, D. C., on Dec. 27th, 28th and 29th, 1892, and a report of which is begun on page 79 of this issue of the BEE JOURNAL.

In politics, Mr. Secor is a Repulican. He has been a delegate to many State and District conventions; was one of the delegates from Iowa to the last National Republican Convention that met in Minneapolis last summer.

In religion he is a Methodist, but not sectarian; and has been a trustee in his local society since its organization. He was honored as a delegate to the last General Conference of the church of his choice, in May, 1892, at Omaha. He is also President of the County Bible Society, which is interdenominational.

Owing to various public and private enterprises which occupy so much of his time, Mr. Secor has never attempted to build up a large apiary. His chief study is to keep the number of colonies within the possibilities of personal supervision and recreative enjoyment. But they have always paid. He doesn't run after new-fangled inventions because they are new, nor after new races of bees because they are widely advertised. He believes in the injunction, "Prove all things: hold fast that which is good."

At different times he has had charge of the apiarian department in various agricultural periodicals. His writings are always instructive, and are read with a satisfaction and interest rarely met with in these latter days. G. W. Y.



CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Bees and Red Clover.

On page 789 (Dec. 15, 1892) is a short item with the above title. The writer seems to convey the idea that bees never get honey of any consequence from red clover. My experience is quite different.

About the year 1875, I lived at the head farm of Hickory Valley, White county, Tenn. This valley was then noted by its extensive red clover fields. One day I noticed that the bees began to store honey very fast, and on going out to look I found they were working wholly on red clover. Any kind of bees, blacks, hybrids, Italians and bumble bees were all working just as though it was a life-and-death case, and it was not the dwarfed or imperfect blossoms that they were working on, either, but it was the vast clover fields "mumming" all over with bees. The bees worked on it for weeks, and filled their hives, and some of the strongest colonies filled two supers each.

I do not claim that bees get honey from red clover every year, and under all circumstances, but I do know that they get honey from red clover, and lots of it, too. Nor do I believe that bees visit flowers just because they see them. My experience is that when you see bees working on flowers of any kind, you may *know* they are getting a little taste of honey at the least. Even any flower that bees get pollen from furnishes more or less honey, as the pollen is a little sweet.

I think you might waste your life in making cast-iron flowers, and placing them in the field, without the satisfaction of seeing a single bee alight on one of them, unless you put some honey on them. Bees are attracted to flowers by scent—it is the sweet fragrance or the smell of honey in the blossoms that stops the bee as she passes by. This sweet substance is placed in the flower by nature on purpose to attract the bees, and the bees are made to seek, work upon, and fertilize the blossoms. So you see it would seem like a blank in nature for bees to visit cast-iron flowers.

Bees go by scent, as you can easily determine by watching them; for instance, notice a colony of bees that has lost its queen; they will hover around the spot where the queen has been, just as if she were there, and you know they do not see her.

Bees, no doubt, see the blossoms, and bound from one to another by sight, but it is my candid opinion that they are first attracted by the sweet perfume. I am aware that neither red nor white clover, or in fact none of our *best* honey-plants furnish honey right along, year after year, that amounts to much; but my experience is that bees do get some honey when they work on flowers. What do you all think about it? And who will set me right if I am wrong? Friends, let's here from you on this question. J. A.

Queens Mating in the Air.

There has been a great deal said on the subject of queens mating in the air. Some writers have gone so far as to deny statements made by some who have claimed to have witnessed the mating of a queen, and it is likely this letter will meet with the same fate. However, I can produce conclusive evidence that the following is the true way the mating takes place.

As to the act of copulation taking place in the air, it is all true enough as far as it goes. I will state, without the least fear of contradiction, that the act begins in the air, and ends on the ground, or some obstacle, where the queen releases herself from the drone by means of her teeth instead of tearing loose, as some say or have imagined. I have not only witnessed a case of this kind, but a negro in this neighborhood who is reliable, claims to have witnessed a similar case.

It has never seemed to me that the the queen could tear the sexual organ from the drone as claimed by some writers. Therefore, I have watched with patience to ascertain the true way this little freak of nature was performed, and my experience has been as stated above. Any extensive queen-breeder

may, during a season, see queens mate, by getting in a position to see objects falling from the air, and in the evening, when the young queens are flying out on their bridal trip, he will have a chance to see the queen and drone falling to the ground. Should you meet with a failure the first time, try, try again.

C. B. BANKSTON.

Chrisman, Tex., Dec. 29, 1892.

Friends, I think the time has just about arrived in beedom for us to say *yes* if we know it, and if we don't know it, better say nothing about it.

Again, my dear readers, let us look at things and examine them ourselves, as we start out with the new year, and let us realize that this is the time for selfishness and narrowness to disappear, and for all the world to be filled with the Auroral light of a broader and more perfect peace and good-will toward men.

J. A.

Kansas and Texas Contrasted.

MRS. JENNIE ATCHLEY:—It is very pleasing to read in your department of the AMERICAN BEE JOURNAL, that apple trees are in bloom, and bees gathering some honey. The contrast between here and there is remarkable. Bees here at the Experiment Station have not had a flight since Nov. 30th. It snowed on the night of Dec. 6th, and remains yet. People say they have not seen snow remain on the ground so long for twenty years. Bees are as silent as the tomb. I hope the season for 1893 will be superior to that of 1892.

CHAS. L. STRICKLAND.

Peabody, Kans.

Friend Strickland, it will be remembered, is Professor of Apiculture at the Bee-Experiment Station of Peabody, and is the right man in the right place. The day he speaks of their big snow in Kansas, our bees worked all day on apple-bloom, but it was what we term "fall bloom," and out of season, but the bees worked on it nicely, just the same. We have had at this writing (Dec. 28th), however, a pretty fair taste of winter, the mercury running down to about 28° above zero. Our bees had a nice flight Christmas day, but have not flown since. This morning the sun is shining brightly, and the bees will likely have a flight to-day.

J. A.

"Bees and Honey"—page 69.

Cyprian Bees as "Watchmen."

MRS. ATCHLEY:—In your article on kinds of smoke and smokers, in the AMERICAN BEE JOURNAL, you mention Cyprian bees. Can you tell me where I can get queens of the Cyprian race? I want the bees for educational purposes, to teach thieves to let bees alone. Do you think Cyprians would be good for that purpose? Answer through the AMERICAN BEE JOURNAL. W.

Grasmere, Fla.

Friend W., I cannot call to mind just now where you can get the Cyprian queens. I should think that the "Cyps" would make a pretty good set of "watchmen," especially if your thieves have no knowledge of the habits of bees. The "Cyps" are sure fighters when handled a little roughly, like a thief would likely have to do. Get a colony of Cyprians, and place them at the spot where it will be most likely to be filched, then the day after the depredation, search the neighborhood for big, ugly faces, and I believe you will be successful in finding the guilty party. Will any one who reads this, that has Cyprian bees, please put an advertisement of them in the BEE JOURNAL? J. A.

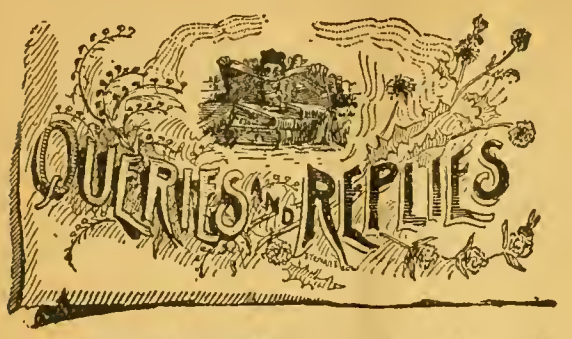
Queens as Premiums—Who Will Win?

To the person sending to me the largest number of new subscribers to the AMERICAN BEE JOURNAL from Jan. 1st to June 30th, 1893, I will give a fine breeding queen of the five-banded variety—such sell for $10; for the next largest number, a three-banded breeder from imported mother; the next largest, a tested queen of either strain; the next, a dollar queen. Who will be the lucky parties? A correct account will be kept, and the premiums promptly paid on July 1, 1893.

Bee-keeping friends, why not each of you who is not now a subscriber to the AMERCAN BEE JOURNAL, send me your name with $1.00, and receive as a premium the book "Bees and Honey?" This is the biggest offer in beedom, all to every new subscriber—52 BEE JOURNALS weekly, brimful of the very best bee-news, suited to all localities, all for $1.00, and "Bees and Honey" to boot. Just think of it! JENNIE ATCHLEY.

Greenville, Texas.

Have You Read page 69 yet?



What Advantage in a Flaring-Top Comb-Rack?

Query 854.—1. Is not an extractor having a flaring top to its comb-rack, the best? 2. Is it not best for the following reasons, viz.: That the honey-frames will the better stay in place, and also that the downward slope thus given to the honey-cells will be aided by gravitation?—Subscriber.

1. Yes.—E. FRANCE.

1. Yes. 2. Yes.—M. MAHIN.

Don't know.—MRS. JENNIE ATCHLEY.

1. Yes, I think so.—MRS. L. HARRISON.

Pass me by. I'm like Dr. Miller—I dunno.—W. M. BARNUM.

Extractors work well enough without flaring sides.—P. H. ELWOOD.

1. Possibly, but I think it would need several experiments to fully establish it.—G. M. DOOLITTLE.

1. I have never used this kind of an extractor. Your points seem meritorious.—J. M. HAMBAUGH.

Try it in actual practice. In such case an ounce of practice is worth a pound of theory.—C. C. MILLER.

It is said to be the best, though in practice I have never found much difference.—J. P. H. BROWN.

1. I think not. 2. No. Gravitation ceases to affect the flow, when the revolutions are rapid.—JAS. A. STONE.

1. No. 2. This matter has been tested ofttimes, and the flaring sides are found to be no improvement.—J. E. POND.

Centrifugal force holds them in place any way, and I doubt if there would be any advantage.—MRS. J. N. HEATER.

I fear that your points are too small and unimportant to be of practical value, if ever so true.—JAMES HEDDON.

1. Probably it would do no hurt, but I think one with a perpendicular basket would answer every purpose.—S. I. FREEBORN.

1. No. 2. With a straight frame holder the speed will be the same top and bottom; with the other style it will not.—H. D. CUTTING.

1. I could never see any advantage to speak of, though I have used both for years. 2. I don't think that in practice there is special advantage.—A. J. COOK.

1. Yes, I think this an improvement, as the honey will leave the cells with less motion, and consequently less labor and liability to breakage.—C. H. DIBBERN.

1. I should not care a dime which way the extractor was built, if it was strong and durable. 2. Not necessarily. The theory seems to be all right but in practice.—J. H. LARRABEE.

1. No. 2. When a good extractor is running, the centrifugal force is so much greater than that of gravity, that the sloping cells would tend to impede rather than to aid in releasing the honey.—R. L. TAYLOR.

1. I think not; besides it is doubtful if a good reversible extractor could be so made. 2. If the power of gravitation was of any consequence, I do see that we would need a honey extractor. The only force available in extracting honey is centrifugal force.—G. L. TINKER.

I have seen both the forms of "reels" you mention, and I have seen but little difference in their working, except that the frames will sometimes topple inward when first set into the straight reel. But the straight reel is not affected as much by the difference in the weight of the combs, as the flared reel. Both forms, however, work well under my care.—G. W. DEMAREE.

1. No. It is true that the frames will lie in place somewhat better, but this advantage is more than counterbalanced by the fact that the centrifugal force is greater at the top than at the bottom, so that if there is unsealed brood in the frame, it is liable to be thrown out the top before the honey is extracted from the bottom of the comb. 2. The part that gravitation would play would be but trifling.—JAMES A. GREEN.

Have You Read that wonderful book Premium offer on page 69?

Report of the North American Bee-Keepers' Convention.

Written for the American Bee Journal

BY W. Z. HUTCHINSON.

The North American Bee-Keepers' Association held its 23rd annual convention on Dec. 27th, 28th and 29th, 1892, at the Randall House in the city of Washington, D. C.

The meeting was called to order at 2 p.m., with President Secor in the chair. R. F. Holtermann opened the exercises with prayer. The following members then paid their dues:

Frank Benton, Washington, D. C.
Ralph Benton, Washington, D. C.
Henry E. Bliss, West Winfield, N. Y.
J. P. Brown, Colora, Md.
Chas. Dallett, West Chester, Pa.
C. E. Dieffenderfer, Martinsb'g, W.Va.
C. D. Duvall, Spencerville, Md.
P. Eberly, Strasburg, Va.
H. Frickey, Bishop, Calif.
O. L. Hershiser, Buffalo, N. Y.
J. E. Hetherington, Cherry Valley, N.Y.
Wm. Hislop, Strasburg, Ont.
R. F. Holtermann, Brantford, Ont.
A. C. Hoopes, Washington, D. C.
W. Z. Hutchinson, Flint, Mich.
W. L. Kemp, Farmington, Pa.
T. F. King, Landover, Md.
W. H. Laws, Lavaca, Ark.
E. M. Pittman, Centerville, Va.
J. W. Porter, Charlotteville, Va.
H. Segelken, New York, N. Y.
Geo. Sharpless, London Grove, Pa.
E. A. Stratton, Horseheads, N. Y.
R. F. Wier, South River, Md.
George W. York, Chicago, Ills.

LIFE MEMBERS PRESENT.

A. N. Draper, Upper Alton, Ills.
A. I. Root, Medina, Ohio.
E. R. Root, Medina, Ohio.
Eugene Secor, Forest City, Iowa.

O. R. Coe, Windham, N. Y., became a life member during the year, but was not present at the meeting.

LADY MEMBERS PRESENT.

Mrs. H. E. Bliss, West Winfield, N. Y.
Miss Sarah E. Joslin, Cincinnati, O.
Mrs. W. H. Laws, Lavaca, Ark.
Mrs. H. Martin, Yonkers, N. Y.
Miss Ellen Reed, Cincinnati, O.
Mrs. A. I. Root, Medina, Ohio.
Mrs. Eugene Secor, Forest City, Iowa.
Miss Segelken, New York, N. Y.
Mrs. H. Segelken, New York, N. Y.
Mrs. Geo. Sharpless, London Grove, Pa.
Miss Jessie Wier, South River, Md.
Mrs. R. F. Wier, South River, Md.

AFFILIATED SOCIETIES.

The following societies paid their affiliation fees:

Connecticut State Bee-Keepers' Society.

York (Nebraska) Bee-Keepers' Association.

Iowa State Bee-Keepers' Association.

Illinois State Bee-Keepers' Association.

The payment of dues being completed, Mr. Eugene Secor then delivered

The President's Annual Address.

I wish, first of all, to express my sense of gratitude to the all-merciful Father who has permitted us to see each others, faces again at our annual gathering.

So far as I know, no member of this association has been called to cross the silent river since last we met. Abundant labor and insidious disease may have enfeebled some of our honored veterans, and deprived us of the pleasure of their presence and counsel, yet I am thankful that they still live, and their interest in apiculture will turn their thoughts towards this convention.

One of the pleasant features of an organized association is the thought of meeting kindred spirits and renewing old, or forming new, friendships. The opportunities which these meetings afford for social intercourse and personal acquaintance should not be lightly thrown aside. Life-long attachments are created which are cheering and helpful to many a pilgrim as he nears the sundown of life. These meetings, too, bring us face to face with those whose writings we have read, and I opine that after we have become acquainted with a writer we know better what value to place on his dictum.

Those who believe that bee-keepers' conventions are only valuable in proportion to the number and length of the discussions on technical subjects, have failed to take into account the socia

part of our nature, and the benefits to be derived from a closer personal contact with those who have achieved success in the same line of work.

INVENTIONS IN APICULTURE.

Our meeting in this city is opportune. We are enabled by the records and models in the Patent Office to learn what science and invention have done in the last forty years for the pursuit which we represent. Indeed, it will not be boasting if we assert that in the period named, more progress has been made in the field of practical apiculture than in all previous recorded time. Some interesting and important facts relating to the natural history of the honey-bee had been known for a long time, but they were facts which were not particularly valuable to the honey-producer until the invention of the movable-frame hive. The improvements which followed in rapid succession made a new era in bee-keeping. Until then it was an uncertain and unremunerative employment. When the caravans of the East took honey as an article of merchandise from the land of Assyria to Egypt, they probably got their supply from the mountain caves, where the wild bees, in favorable years, had stored a suplus. But I have no idea that any one in the great cities of the ancients ever got a taste of it except the rich.

Following the invention of the Langstroth hive came the extractor, the section honey-box, and comb foundation, the last two, in my opinion, as important as anything ever given to bee-keepers. The section-box has popularized honey to an extent little known or dreamed of a half century ago. Instead of the large, unwieldy boxes of honey which our grandfathers took to market, or the tubs of broken honey so familiar in those days, the grocer can now supply his customer with a neat package of almost any desirable quantity, without so much as soiling his fingers.

The queen-cage, also, and the ability to send queens by express and mail to the remote parts of the earth, gave an impetus to bee-culture never before felt. And be it said to the credit of American inventors and breeders, they are never content with mediocrity. Bee-keepers' meetings and our excellent bee-literature have awakened interest and enquiry, the mechanical genius of the age has been stimulated to meet the demand for improved appliances, and queen-breeders have spent much time and money trying to improve the honey-producing qualities of the bee first introduced into this country. In the desire for improvement (or novelty), in the latter direction there have been undesirable importations in my judgment, but, on the whole, progress in the right direction. Indeed, it may be said, too, that not all our inventions are improvements, but they mark the milestones on the road to success. Bee-keeping, like our civilization, is yet in a state of transition, but as Paul advises, we are going on toward perfection, although we may never reach it.

IMPORTANCE OF THE HONEY-BEE.

The bee-keepers of the country belong to that great army of producers who are feeding the world, and at the same time are trying to solve the problem how to feed themselves—in other words, how to make an honest and decent living from the natural resources which the Creator has placed within their reach—resources, too, the use of which do not impoverish but inrich the earth.

Were the honey-bee blotted out of the book of nature, few people realize the loss to agriculture, horticulture and floriculture that would result. These kindred industries are slow to acknowledge the benefits derived from the bees, as an important aid to complete fertilization in many plants, as positively necessary to others, and beneficial to all flowers visited by them. Cross-fertilization is Nature's method of progress. The bees are Nature's assistants in this work. No other known agency can be substituted. Instead of hostility, the bee-keeper should receive the thanks of the agriculturist and fruit-growers, and the fostering protection of the Government. Its entomological experts should not only spread abroad knowledge regarding insects injurious to vegetation, but also correct information as to those which are helpful to the farmer.

If bee-keeping be a lawful and necessary pursuit, the Government should throw around it the same protective legislation that is granted the dairyman and pork-raiser. We can no more compete against glucose honey with an honest product than the farmer can against oleomargarine butter or cotton-seed lard.

ADULTERATION OF HONEY.

I wish right here to express my disapproval of a method of adding to the income of the honey-producer (which has been recently much discussed) by feeding a substance not distilled in Nature's

laboratory. If it is no longer possible to produce honey at a profit in large apiaries from the natural secretions of plants and flowers, it is an argument to my mind that the business is being overdone in some localities, and that it is time to return to the practice, once more general than now, of smaller apiaries and a wider distribution of bees throughout the country.

In my judgment we cannot longer prosper if we adopt methods which will put us on the defensive in every honey market in the country. Adulteration is the crying sin of the age. The people are becoming aroused on the subject. We ourselves are trying to put a stop to it. It will not be sufficient to say that this improved article is to be sold for just what it is. If it is possible to produce it at a profit, it will not be long before every consumer will have heard of the trick, and conclude to make his own honey. Any attempt to forestall the seasons will prove a delusion and a snare.

WORLD'S FAIR APIARIAN EXHIBIT.

The Columbian Exposition in 1893 offers to the bee-keepers of this country an opportunity for instruction which will probably not come to many of us again. For the purpose of contrasting the new with the old, and comparing products and appliances with the leading honey-producers of this and other lands, it will be an object lesson too valuable to lose. Pride, if nothing else, should stimulate every lover of his country to add to the collection. Although the management failed to suitably recognize our industry, we cannot afford to let this occasion pass to impress upon the people the magnitude of our industry. Nothing so impresses one as quantity. A glass of water is insignificant, but the Atlantic ocean needs no encomium to its majesty. So while a few pounds of honey, although perfect, will attract little attention, tons of a less perfect article will make its impression.

Perhaps some of the States have not offered that encouragement to exhibitors that you feel is due. It may be, by properly presenting the matter to the State Commissioners, arrangements can yet be made, and the *expenses* of a State exhibit at least be secured.

BEE-KEEPERS' CONGRESS IN 1893.

At some time during the Exposition I hope to see a bee-keepers' Congress arranged for in Chicago. It will be a great pleasure to meet bee-keepers from foreign lands—many of whom I have no doubt will visit our shores at that time. I call your attention to this matter that you may, if you so desire, appoint a committee to determine the time of such convention, and publish proper notice thereof. If thought best to hold such a meeting in connection with the next gathering of this association, timely notice should be given that some of our friends across the water might arrange to be with us. A gathering of bee-keepers at that time ought to be of unusual interest to us.

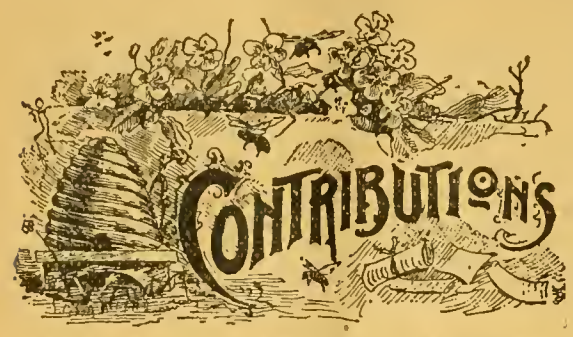
In closing, allow me to thank you for the honor conferred by calling me to preside over this, the 23rd annual meeting of this association. Among my predecessors are some of the foremost bee-keepers of the country and world. I am happy to be numbered among such an array of talent and worth. The bee-keepers of America may well be proud of the pioneers in this industry. Such names as Langstroth and Quinby will ever make bee-keeping a respectable calling. EUGENE SECOR.

Frank Benton—Pres. Secor says that the Government ought to pay attention to beneficial as well as injurious insects. It does. The Government entomologists study insects from a purely scientific standpoint. Their life history and habits are studied most closely, and when it becomes desirable to work against their multiplication, or to encourage it, this knowledge is of great benefit. For instance, the scale insect threatened to destroy the orange industry of California, when the Government sent a man to Australia, the home of the scale (where, by the way, it did comparatively little harm), to see what could be learned of its life history, and of any parasitic insects that might prey upon it. As it did no harm in that country, the entomologist argued that there must be some natural enemy that kept it in check. It was found as supposed. A sort of lady-bug fed upon the scale. Large quantities of this bug were imported to California. The ravages of the scale soon diminished, and the vast orange industry of California was saved.

R. F. Holtermann—I am glad to see the President touch on the subject of sugar-honey. Our local associations have passed resolutions asking the legislature to pass laws in regard to sugar-honey similar to those in operation for regulating the sale of oleomargarine.

A. N. Draper—I think that something ought to be done to prevent the spraying of fruit trees while in bloom.

(Continued next week.)



The Subject of Reproduction in Bees Considered.

Written for the American Bee Journal

BY PROF. A. J. COOK.

We will understand our topic all the better if we give the subject of reproduction a brief, general consideration.

There are three methods of reproduction among animals—by Fission, Gemmation, and Sexual Reproduction. The first two, by separation and budding, seem to ally plants and animals; indeed the whole philosophy of the science of to-day shows that nature is one great whole.

Fission is explained by the word separation. An animal separates, and two animals are the result. We see the same in reproduction of strawberries by runners. This division is no rare sight in our Zoological laboratories. It is often a rapid performance, and so we may witness the whole operation at one sitting at our microscopic study. This method is confined to four branches of the animal kingdom: the lowest, or Protozoans, single-celled animals, where it is the only method; the sponges, where any separation, however rude, results in no serious harm, but in as many perfect animals as there are of the divisions; among the coral branch of animals, where even accidental division often results, in as sure and perfect reproduction as that just described among sponges. The branch Vermes—worms—illustrates this method of reproduction in a few cases.

Gemmation, or budding, is well explained in the last word. A bud starts forth, develops, and possibly drops off, when it becomes a single animal like its parent. It may not drop off, in which case we have a compound form, as seen in all real coral animals. This law of reproduction is best illustrated in the branch of animals including the corals, and is also illustrated in a few of the worms. In our laboratories we have opportunity to observe the whole operation in the very interesting fresh-water Hydra. This is so rapid in development that it is not tedious to watch it, from beginning to end. All animals that develop by gemmation develop also sexually.

Sexual Reproduction is where an egg or germ-cell is produced in an organ, called an ovary, or female organ, and a sperm-cell in a male organ. Usually the sperm-cell must enter and become incorporated within the egg, to insure development or reproduction. In some cases, as with drone-bees and plant-lice, the eggs are fecund without receiving the sperm-cells; but this is exceptional. This kind of reproduction prevails in all animals except the lowest of single-celled branch, and in all of these branches, if we except the coral animals and a few worms, it is the only method of increaso.

There are two kinds of sexual animals, those where both the male and female organs are found in the same animal, and those where the sexes are distinct. The first are known as hermaphrodites, and uni-sexual or monœcious animals; the others are bi-sexual or diœcious. Here, again, we see a tie binding plants and animals together, for every observer knows that most, even of our higher plants, are monœcious, while not a few, like the willow, the poplar, the hemp, etc., are diœcious.

Both of these methods are illustrated in most of the lower branches, indeed in all branches of sexual animals except the two highest. Thus animals as high as the angle worm and snail are hermaphrodites or uni-sexual, that is, each animal is both male and female, while we find bi-sexual animals among all the lower branches of sexual animals; the two highest branches, the insect and back-bone branches, consist wholly of them. Thus our bees are not only bi-sexual, but they belong to a branch that is practically diœcious throughout.

The sexual animals are again divided into the oviparous, those which lay eggs which develop and hatch outside the mother, and where the unhatched young must get all its nourishment from the egg, except as it may secure something, as oxygen, from the surrounding media; the ovoviviparous also called sometimes, unfortunately, viviparous, where the egg hatches inside the mother, and so the young is born alive and active, though the nourishment is still wholly from the egg; and viviparous where the young develops within the mother and secures nearly all its nourishment from the mother, and not from the egg.

Birds, bees, indeed most insects, are oviparous, or of the first group. Some of the sharks, many snakes, all the summer broods of plant-lice, and indeed not a few other insects are of the second group or ovoviviparous. One has to hold a stem or leaf covered with aphides plant-lice—but a few moments in midsummer, under close observation, to see a number of lice born. Here all the eggs hatch within the mother.

The mammals, all back-boned animals that suckle their young, are viviparous, that is, the young receives their food almost wholly from the mother. Here the blood-vessels of the mother and young come in very close contact, so that while the blood never passes directly from mother to her prenatal young, yet nourishing material, including oxygen, does so pass, and so the young is fed. The placenta, a very vascular organ where this interchange takes place, may be likened to the lungs after birth, except that here the blood receives not only oxygen, but all nourishment, and gives off not only carbonic acid, but nearly all the excreta.

In bi-sexual animals, as we have seen, the sperm-cells of the male must pass into the eggs or germ-cells, or no development ensues. In some cases, as with most fish, there is no mating. The milt, or sperm-cells, and the roe, or eggs will pass from parents into the water, and their meeting is portuitous. Here, of course, impregnation is not at all certain, and so sperm-cells or germ-cells exist by the millions—must, or the species would soon cease to exist. The danger is less, however, from the fact that at times of spawning both males and females resort to the same localities, as the salmon and other marine species, then pass up rivers and over gravel beds.

Nearly all diœcious animals, even some fish, mate, and so germ and sperm cells are brought near together, in the same tubular aparatus, and as the sperm-cells are always very active, mating if both parents are healthy and perfect, is almost sure to be followed by impregnation.

In a few insects, like our bees, the sperm-cells are received at mating time into a special vesicle, on the side of the oviduct of the female, known as the spermatheca. It is estimated that the spermatheca of the queen-bee may contain millions of the sperm-cells. This organ is under the control of the female insect, and she can liberate the sperm-cells or withhold them, as the eggs pass by this organ; and as all bee-keepers know, if the sperm-cells are liberated by the queen, the egg is impregnated and develops into a female, while if they are withheld, of course the egg is not impregnated, and yet curiously enough, it still develops, and a male always results.

The queen liberates the sperm-cells by simply opening the duct from the spermatheca, when the ever active sperm-cells push out. In case a female insect is possessed of a spermatheca, she does not need to meet the male but once, and probably never does in case impregnation is successful. We see, then, that our bees reproduce by sexual reproduction, that they are bi-sexual, oviparous, must mate, but if successful, never mate but once, as the female possesses a spermatheca, and that in the production of the drones or males they are agamic, that is, the unimpregnated eggs develop, but always produce males.

It is sometimes questioned if drones from eggs of fertile workers or unimpregnated queens, would be able to impregnate a queen. All such drones have perfect organs, and the sperm-cells are present, and to all appearances just as active and perfect as in other drones. I see no reason to doubt their potency Indeed, I think cases have been reported where they were proved to be sexually potent.

There is one more question connected with reproduction in which there has been much discussion and some difference of opinion. It is stoutly affirmed by some, that the mere presence of sperm-cells in the reproductive system of a female affects her organism so that the eggs which pass subsequently from her ovaries will be affected. Thus if the sperm-cells are from an animal of another breed, her offspring will be impure long after these sperm-cells are gone, and even if impregnation occurs by pure mating. The presence of sperm-cells in the organism, taints the organism. To illustrate this point, suppose a short-horn cow was mated with a galloway male and produces a cross, half short horn and half galloway. All subsequent offspring from this cow, even though mated with a pure short-horn like herself, would be tinctured with galloway blood. It is claimed that this law holds with mammals, birds and bees.

I wish to say that I am skeptical in this whole matter. As to mammals I have no positive proof, but a large breeder of mules in Texas writes me that he has had opportunity over and over again to see proof of it, and yet he never saw a vestige of proof. It is easy to see how, through carelessness, or atavism in

case of a slight trace of impurity, in either parent, there should be seeming evidence for this law, and yet really be none. It would seem more probable in case of mammals than with birds or bees, for here not only are the sperm-cells present, but a half-blood fœtus is present in the uterus all through gestation, and possibly might, through cell inoculation, so affect the mother as to affect her subsequent progeny. Yet I must say that it seems to me so impossible, that I question the whole position.

In case of poultry, where the law is as stoutly defended as with mammals, there is no organic connection, for birds are oviparous. Here, then, any affect must come wholly through the simple presence of the sperm-cells, for a brief time, in the oviduct. To test this, I secured some light Brahma and brown Leghorn fowls. These are so different as to color, markings, eggs, etc., that they afforded an excellent chance to test the matter. I kept cocks and hens together in one pen all winter, and saw the cocks of one breed repeatedly mating with the hens of the other breeds. In the spring I separated them, putting the Brahmas in one pen, and the Leghorns in another. I waited three weeks, and commenced to set eggs. I reared over 100 chickens, and yet saw no trace of impurity. Both breeds were entirely true to standard. We know how a mere trace of Brahma blood will put feathers on the legs. Yet every Leghorn had legs as clean as ever seen in the most typical Leghorn. I hardly need to say that I now have still less faith in this law as applied to poultry.

When Messrs. D. A. Jones and Frank Benton went to the Orient for bees, I rejoiced in the chance to get some of the Asiatic bees that I might test the same law with them. I got a fine Syrian queen, and reared a number of queens from her eggs the first summer. Of course all of these were mated with Italian drones, for as yet we had no other. The next spring we had abundant drones from the old queen, and many more from the young queens mated with Italian drones. The first were from a purely-mated Syrian—one mated in the Orient—the others were from queens mated here before we had a Syrian drone in the apiary. Here we had hundreds, yes thousands of cases, to test this law in case of bees.

All who have seen Syrian drones need not be told that they are so different from Italians that no one could mistake them. Yet in all these cases all the drones were emphatically and entirely Syrians. I could never see a trace of Italian markings. I had many persons look with me, and all were of one mind in the matter. Thus with me, the matter is settled. *The drones from a pure queen will be pure and of her blood, no matter how she is mated.* If drones show taint, then the queen is impure. This must be true, from the law of agamic reproduction, which holds in the production of drone-bees, unless the mere presence of sperm-cells in the reproductive apparatus affects the entire reproductive organism of the queen. Thus I think we may say *no* in case of birds and bees, and I claim the right to use an interrogation point in case of mammals, like our horses, cattle, sheep and hogs.

Sometimes bee-keepers think that they have evidence that bees have removed sperm-cells from worker-eggs, and that worker-eggs have produced drones. I think there must be a mistake here. The sperm-cells are very minute. It takes a high-power microscope to even see them. They pass at once into a microscopic opening—the micropyle—of the egg and becomes incorporated into the substance of the egg. Thus the bees could not see or handle these cells, even if they could reach them, and this, of course, they could not do. Thus in all such cases some other explanation must be sought.

Eggs often refuse to hatch. This is true of eggs of all animals. Such females are barren. We cannot say just what is wrong, only that the ovaries are diseased, or at fault, and so the eggs are worthless. It is no wonder that this is so. The wonder is, that there are not more cases, when we consider the extreme complexity of the whole apparatus. The sperm-cells, as well as the eggs, may be worthless, in which case the male is diseased.

Agricultural College, Mich.

Good Prospects for Bee-Culture in California.

Written for the American Bee Journal

BY W. A. PRYAL.

This year has opened up in grand style. The weather for the past three or four days has been charming—clear and bright, and balmy. It is like April or May weather. As we have had an abundance of rain, and as there is no doubt that more will follow at the right time, it is pretty safe to say that Cali

fornia's chances for a good honey crop are good.

The rains have been general all over the State. While here we have had in the neighborhood of 14 inches, half that amount has fallen in some of our big valleys, and yet in other portions of the State, mainly in the mountains, possibly more than twice as much has fallen, as we, down here near the bay of San Francisco, have had.

With plenty of rain early in the winter, and copious rains in the spring, the big bee-gardens of California yield nectar quite profusely.

My bees never "wintered" in finer condition. I have not lost a single colony of the 60 I have in frame hives. I had three August swarms in old fruit-boxes, two of which are *non est*, and the other is being built up in a double hive.

MAKING COMB FOR BEESWAX.

If I were running a large apiary hereabouts, I would not try to have over 100 decent hives; all others I would put in old boxes and work them for the wax I could get from them. The reason of this is that this locality is overstocked, and yet there is enough honey to allow a large number of colonies to build comb.

Late swarms could build the hive nearly full of comb, and if they were not able to go through the winter without becoming a prey to robbers, or without requiring more food than they were worth, they could be allowed to demonstrate "the survival or the fittest." This may not be good doctrine, but it will go for this section. Of course I would act differently if I were in a good honey region, for it would be to my interest to have as many colonies as possible.

If all the swarms that go to the woods, rocks, or into the ground every year in this State, were "hived" in old fruit-boxes (and wagon loads of them can be had for the hauling), and run for wax, just think what an enormous lot of wax we would produce annually! and that in addition to what we obtain in the usual way. This could be done, and it would be perfectly right, too, for is it not better to keep the bees rather than have them go to the hills and help overstock good bee-ranges? This subject alone is material enough for an article.

We usually have some severe frosts by Dec. 28th or 29th, but they have passed us, and it is probable we will have an open winter, as I have intimated. So far tomato plants have just been frost bitten enough to cause them to die, though the fruit yet remains good on the open ground. Calla lilies, heliotropes and bedding plants have not been affected by what cold we have had, and which was about the middle of the past month. The blue-gum (eucalyptus globulus) is coming into bloom, and will give the bees plenty of nectar.

I find that raspberries are blooming very early this year—nearly every plant in our two patches (3 acres) is in bloom, and to-day I noticed the bees were making merry upon the blossoms. How would the reader like to eat raspberries right off the bushes at Christmas and New Years? Well, that is what *we* have been doing. The only trouble is, the berries have not that fine flavor they have a month or two later, and all through the spring and summer.

I find that this is the best time to go through the hives and clip the queens' wings that have not been previously "barbarized." It is easy to find them now.

To-day I find that some of my hives have three and four combs well filled with brood; the young bees are coming out of some of them. I do not remember them doing so well before.

North Temescal, Calif., Jan. 2, 1893.

But Little Adulterated Honey Marketed.

Written for the American Bee Journal

BY J. M. JACOBS.

To speak plainly, I think there is but very little adulterated honey on the market. I have made one or two trips every fall in Northern Iowa, Dakota and Minnesota for the last nine years; have sold from 20,000 to 40,000 pounds of honey each year, and never have I been able to supply all of my customers; and with three exceptions never have I found any adulterated honey, and the adulterated honey I found was so inferior that I could not see how any one could be deceived. Pure extracted honey will granulate, and in its granulating will settle to the bottom of the can or jar, and that will expose the fraud.

I went into a merchant's store to sell some honey. He looked at my samples and pronounced all honey-dealers as frauds. I asked him his reasons, and he said, "Come here, and look at this stuff I have just received from some of your honest bee-keepers!" I was shown five cans of very fine granulated white clover honey. I called for a dish, took

a common lamp, melted the granulation, and handing him the liquidated honey, I said, "What do you think of that?" He thought it very nice. I explained to him, and he was happy.

It seems strange to us, but it is a fact that people do not know that pure extracted honey will granulate, and that alone is responsible, for the public generally are inclined to think because honey granulates it must be adulterated. I think we have nothing to fear from that source. I could sell 200,000 pounds every fall, if I could get the honey to sell. I never yet have been able to get enough to supply my trade. I am a bee-keeper, and sell pure honey.
Clinton Co., Iowa.

[We do not presume to say to just what extent the adulteration of honey is practiced, but we have it on pretty good evidence that if it were fully known how much it is done, it would cause our friend Jacobs and others like him to stand in utter amazement! Murder is not a general thing, and yet we believe in preventing or prohibiting it entirely, and must have good laws upon that subject. When we once get a law that we can "screw down" on adulterators of honey and other food products, a good many will be surprised at what will result from the "squeeze." The BEE JOURNAL is ready to push on the "lever" with a pretty heavy force. Just give us a chance!—ED.]

Convention Notices.

CALIFORNIA.—The 2nd annual meeting of the California State Bee-Keepers' Association will be held in the Chamber of Commeree in Los Angeles, Calif.. on Feb. 7th and 8th, 1892. Programmes will soon be issued, for which address, JOHN H. MARTIN, Sec.
Redlands, Calif.

NEW YORK.—The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.
H. C. FARNUM, Pres., Transit Bridge, N. Y.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Heavy Colonies for Wintering.

I got my bees all into the cellar in time to miss this cold spell. Their average net weight was 60 pounds per hive—the heaviest I have ever put into winter quarters. JAS. A. STONE.
Bradfordton, Ills., Dec. 28, 1892.

Profitable Reading, Indeed.

I have followed instructions given in the BEE JOURNAL the past season, and as a result, I have gained more than ten times the cost of the JOURNAL from 10 colonies of bees.
HORATIO N. SCRATCH.
Kingsville, Ont., Dec. 30, 1892.

Bees Wintering Well.

I commenced last spring with 4 colonies, and had 6 swarms, 2 of which went off. I saved the other 4, which are wintering well. I did not get much honey, as the season was bad, and not much bloom. I could not get along without the BEE JOURNAL and keep bees. W. S. MEADOR.
True, W. Va., Dec. 31, 1892.

Experience of the Past Season.

I bought 2 colonies of bees last spring, and transferred them to dovetailed hives on May 6th. One stored 29 one-pound sections of honey, which brought 15 cents per pound at home. The other colony took the swarming fever and swarmed four times; two times they went back into the old hive, and the third time I hived them, but they came out again, and flew about 50 feet, then returned to the new hive. I now have 3 strong colonies, with the hives crammed full of capped honey.
FRANK B. ATKINS.
Hannibal, Mo., Dec. 26, 1892.

Honey from Golden-Rod and Alsike.

We had a very fine season in this part of Michigan, especially for fall honey, but few bees, as those that wintered bees on the summer stands lost nearly all last winter. I got 14 cents for my honey in my home market—fall honey and all—and could have sold double the quantity. I never saw nicer fall honey; it was white and thick, and of good flavor.

There is a great deal of golden-rod here. I would like to have some of those here, some fine day in the fall, that say bees do not work on golden-rod. I could show them thousands of them at work on it. We have two species of it, and the bees work well on both. I have about five acres of Alsike clover, which is a splendid honey-plant, and the honey is of good quality. C. A. WRIGHT.

Little Prairie Ronde, Mich., Dec. 29.

More than Paid their Expenses.

Bees did very poorly last season, but in the eight years that I have kept bees there has been no season but that they have paid their expenses, and more. I can't do without the AMERICAN BEE JOURNAL as long as I keep bees.

GEO. GALE.

Adams, Nebr., Jan. 4, 1893.

Wintering Very Nicely So Far.

I put 25 colonies into the cellar on Nov. 12th, in fine condition, with plenty of stores. They are wintering very nicely so far. The past season was very poor for honey. From 20 colonies, spring count, I got only 500 pounds of comb honey. I hope we may get better crops in the future than we have had for the past three seasons.

L. CHANDLER.

New London, Minn., Jan. 2, 1893.

Gathered Enough Honey for Winter.

The past was a poor year here, and the bees barely gathered enough honey for their food. I have 46 colonies in good condition in winter quarters. They are all in double chaff hives, and I hope to bring them all through. From 40 colonies I only got 200 pounds of comb honey, and 100 pounds of extracted, and only 3 swarms. Numerous colonies died from hunger in this neighborhood, and many more will suffer from hunger this winter. ALBERT SCHUMACHER.

New Elsace, Ind., Dec. 27, 1892.

Has Kept Bees Over 50 Years.

I have been reading the AMERICAN BEE JOURNAL for many years, and I am not tired of it yet. I have kept bees over 50 years, and the last 10 years I have had from 150 to 250 colonies, but I am nearly 73 years old, so I reduced them to 120. I had over three tons of honey the past season. My brother, J. H. Byer, kept about the same number of colonies. I am sorry to say that he took sick Dec. 10th with inflammation of the lungs, and died on the 19th; his wife took sick on the 18th, and died on the 20th. Both were buried in one grave on the 21st. We used to help each other.

DAVID BYER.

Markham, Ont., Dec. 26, 1892.

Bees in Good Condition.

I had a tolerably good fall flow of honey; I got about a ton of it. The flow stopped quite suddenly, and left quite a number of sections unfinished. We have a fairly good market for it here. I have 95 colonies, and they are in better condition than they have been for a number of years.

D. C. MCLEOD.

Pana, Ills., Dec. 29, 1892.

Results of the Season.

Being sick last winter, and not able to look after my bees, about one-half of them died during the winter, and the balance, except 3 colonies, died from spring dwindling. My loss in all was over 20 colonies. They all had an abundance of honey. Two swarms came to me, and went into empty hives. I had 2 swarms from my own. One of the stray swarms was very weak, and became queenless, so I united it with another. I have now 6 good colonies, and all in good condition. I got about 150 pounds of comb honey.

JOHN KERR.

Cedar Falls, Iowa, Dec. 30, 1892.

Experience with a Young Queen.

On June 17, 1892, I had a prime swarm issue, and nine days later I cut out all queen-cells but one, as I then thought. On July 8th, or just 21 days after the old queen had left the hive, I examined them, expecting to find a young laying queen, but to my surprise I found nothing of the kind, and on holding a frame in my hand, I heard the piping of a young queen thereon, and

found between the bottom-bar and the lower edge of the comb a ripe queen-cell. I at once took a pen-knife and opened the cell, and out came a nice yellow queen, as lively as could be. She ran over my hand, and in a few seconds flew off, which was the last I saw of her. Will some experienced bee-keeper please explain how she remained in her cell for 21 days?

JOHN SUNDERMANN.

Huntington, Ind., Dec. 31, 1892.

Fair Crop Realized, Etc.

The past season, in this part of the bee-world, was not very encouraging to bee-keepers. The producers of comb honey realized almost a total failure, while the ones that produced the extracted article met with a little better success. As I belonged to the latter class, I realized a fair crop. I received the first premium at the Great Inter-State Fair held here, but the prize was not very "scrumptious"—only $2.00. I also exhibited the first bees at this Fair, and the first beeswax. There was no premium on either of these.

JOSEPH EHRET.

Trenton, N. J., Dec. 31, 1892.

Wintering No More a Problem.

Seven years ago last fall I caught a stray swarm, and kept them along for about three years in the old-fashioned way. I have 82 colonies in the cellar now, well provided with good honey—not honey-dew, as last winter. Wintering is no more a problem to me.

The last was the poorest season we have had here. Last spring I had about 40 colonies. I secured about 600 pounds of comb honey, and the bees doubled in number of colonies. My hives are all eight-frame but five. I hope the next season will be better, but I think it pays me, for it keeps me in good health to attend to bees. The stings seem to do me good—it is good for my neuralgia. I shall be 75 years old before bees swarm again.

A. F. CROSBY.

Sheffield, Iowa, Dec. 30, 1892.

The Honey Almanac for 1893 will be issued about Jan. 20th.

Great Premium on page 69!

A Half-Dozen "Stray Straws."

350 million people talk Chinese; 105, English; 100, Hindoo; 80 Russian; 45, German; 38, French.

A correspondent asks what insurance companies insure bees against fire, etc. I don't know. Who does?

British bee-keepers are to have in London a competitive exhibition of the honey intended for the World's Fair, before it starts for this side the water.

For Dysentery, the *Medical Brief* says one of the best remedies is two or three eggs daily, beaten up lightly with or without sugar. This for people, not for bees.

"A nuclei" is something spoken of quite too often. There is no such thing, any more than there is "a women." You may have a "nucleus;" but if more than one, then they are "nuclei."

A common error is to suppose that, in setting a weak colony in place of a strong one in order to strengthen it, it is important that the change be made when the largest number of bees are out. There will be just as much gain if the change is made at midnight.—DR. C. C. MILLER, in *Gleanings*.

Best Advice I Can Give Bee-Keepers.

Prevent waste. There is no occasion for a well person in this country to be poor. Waste in some form makes the difference between poverty and comfort. Are any of your hive covers or bottom-boards or feeders or other implements of the apiary unnecessarily exposed to the weather? What becomes of your broken comb and pieces of wax? Do you allow the moths to destroy your empty combs? If so, get your hand on the stop that controls waste, and bear on. Get on it with both feet, if necessary. It will improve your circumstances.

Don't chase rainbows. You think you are an inventor, but you are not. That

new hive or frame or other contrivance you have been planning so long—drop it. And be a little wary of other people's inventions. Your indorsement is not necessary to save a good thing from oblivion, and your money can't save a bad one. Don't waste time waiting for some promised invention that is to work wonders. The chances are a thousand to one that it won't come, and like odds that if it comes it will prove worthless.

Don't get discouraged. Be neither elated nor depressed. Don't give away your bees nor don't destroy them. Crowd them for all they are worth, but go slow on increase. Add as few to the number of your colonies as possible. Feel your way till you know your ground and stick close to your business. The horse with the best staying qualities is the one to bet on.

Strike while the iron is hot. In bee-keeping work *must* be done at the right time. To do otherwise is to give success away. If you will do everything at the right time, your work will not crowd you at any period. Get everything ready this winter for the honey season and swarming, and then keep up with your work.

Finally, don't get excited about new things or new ways. Follow present plans until in your coolest moments you decide a change to be the best. Let others try novelties first. Exercise your intelligence and keep your head level. Sleep well at night, and keep wide awake in the day time.—R. L. TAYLOR, in *Bee-Keeper's Review.*

Bee-Keeping as a Specialty.

Bee-keeping as a specialty is all right in exceptionally good localities; but there are but few localities in the United States where it can be made a specialty. In California, most of the bee-keepers have some outside work or industry: the fruit and bee business go well together; also, the raising of strawberries and vegetables. For myself I have combined the small fruit and nursery business, with the bee business and find they go admirably together.

Bee-keeping is not worked here (California), as it was a few years ago; it has kind of quieted down, in one sense. That is a good thing, for it will principally be conducted in the future by those most eminently qualified to run such a business. Bee-keeping will pay as well as any other rural occupation if rightly followed. No farmer at first depends entirely upon one variety of grain, or frult, as his sole occupation, and therefore bee-keeping must follow suit. I am heartily glad that I commenced bee-keeping; glad that my vision has been opened to a higher, greater, grander range of thought concerning God's works. Bee-keeping is an ennobling and elevating occupation. I have met with more reverses than generally falls to the lot of the average bee-keeper; the whole trouble was caused by investing too heavily in bees and implements in a very poor location. I am afraid I was too ambitious and overdid the matter; still, I now see that I have greatly gained in bee-culture and everything else by these early reverses.

I now have a splendid location and have done well the past season; but I have learned one thing, and learned it well—if bees do not pay for their care and attention in surplus honey that you must bestow on them, that is, enough to pay for sections, crates, foundation, cans, etc., and earn you a small per cent., you had better not invest a cent in supplies until they do. Make your bees pay for everything needed in the apiary, and you will be all right.—S. L. WATKINS, in *American Apiculturist.*

Floating Bee-Houses on the Nile.

In Lower Egypt, where the flower harvest is not so early by several weeks as in the upper districts of that country, the practice of transportation is carried on to a considerable extent. About the end of October the hives, after being collected together from different villages and conveyed up the Nile, marked and numbered by the individuals to whom they belong, are heaped pyramidically upon the boats prepared to receive them, which, floating gradually down the river and stopping at certain stages of their passage, remain there a longer or shorter time, according to the produce which is offered by the surrounding country.

After traveling three months in this manner, the bees, having culled the perfume of the orange flowers of the Said, the essence of roses of the Faicum, the treasures of the Arablan jessamine, and a variety of flowers, are brought back about the beginning of February to the places from which they have been carried.

The productiveness of the flowers at each respective stage is ascertained by the gradual descent of the boats in the water, and which is probably noted by a scale of measurement. This industry produces for the Egyptians delicious honey and abundance of wax.—*B. B. J.*

AMERICAN

BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

199 RANDOLPH ST., CHICAGO, ILLS.

TO CORRESPONDENTS.

The Bee Journal is sent to subscribers until an order is received by the publishers for its discontinuance, and all arrearages are paid.

A Sample Copy of the BEE JOURNAL will be sent FREE upon application.

How to Send Money.—Remit by Express, Post-Office Money Order, or Bank Draft on New York or Chicago. If none of these can be had, Register your Letter, affixing Stamps both for postage and registry, and take a receipt for it. Money sent thus, IS AT OUR RISK; otherwise it is not. Do not send Checks on Local Banks—we have to pay 25 cents each, to get them cashed.

Never Send Silver in letters. It will wear holes in the envelope, or may be stolen.

Make all Money Orders Payable at Chicago, Ill.—not at any sub-station of Chicago.

Postage Stamps of any denomination may be sent for any fraction of a dollar; or where Money Orders cannot be obtained, stamps for any amount may be sent.

Subscription Credits.—The receipt for money sent us will be given on the address-label of every paper. The subscription is paid to the END OF THE MONTH indicated.

Do not Write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Emerson Binders, made especially for the AMERICAN BEE JOURNAL, are convenient for preserving each weekly Number, as fast as received. They will be sent, post-paid, for 50 cts. each. They cannot be sent by mail to Canada.

Lost Numbers.—We carefully mail the BEE JOURNAL to every subscriber, but should any be lost in the mails, we will replace them if notified before all the edition is exhausted.

Always State the Post-Office to which your paper is addressed, when writing to us.

Special Notices.

The Date on the wrapper-label of this paper indicates the *end* of the month to which you have paid for the JOURNAL. If that is past, please send us one dollar to pay for another year. This shows that Mr. Porter has paid his subscription up to the *end* of December, 1893 :

Wallace Porter Dec93
Suffield, Portage co, Ohio

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, January 14th, 1892 :

CHICAGO, ILL.—There are occasional sales of best grades of comb honey, but the retailers are not yet sold out on supply laid in before the holidays. Prices are a little easier, especially on that which will not grade "fancy"—such brings 17@18c., and other grades 12@16c. Extracted, 6@9c., as to quality.
Beeswax—22@25c. R. A. B. & Co.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½ ; dark, 6@7c. Beeswax—23@25c. J. A. L.

CINCINNATI, OHIO.—Demand from manufacturers, for extracted honey, was slow for the last few weeks, while there was, and is still, a fair demand from consumers for family use. There is no choice comb honey in the market. Best white comb brings 14@16c. Extracted honey brings 6@8c.
Beeswax—Demand fair, at 23@25c. for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Comb honey is selling slow, very much slower than we like to have it, and it is our experience that when we start honey in at a high price, it sells hard right through the season. We quote our market nominally at 17@18c. for best white honey, 1-lb. combs. Extracted, 8@9c.
Beeswax—None on hand. B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

ALBANY, N. Y.—Our honey market is slow on account of cold weather, but our stock was never so light as now. We have less than 50 cases of honey on hand, and only one barrel of extracted; when usually we have 1,000 cases in stock. For honey not granulated in comb, we quote: White (small), 15@18c.; mixed 13@14c.; dark, 10@11c. Large comb and double glass sell for 1 to 2c. less per lb. Extracted, white, 8½@9c.; amber, 7¼@8c.; buckwheat, 7@7¼c. H. R. W.

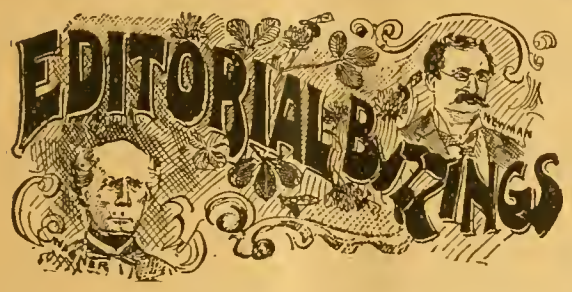
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., JANUARY 26, 1893. NO. 4.



Mr. E. Kretchmer, of Red Oak, Iowa, has been appointed to take charge of the World's Fair apiary exhibit from the State of Iowa. For the exhibit in the Iowa building it is desired to purchase some choice white comb honey, and he would like to hear from any Iowa bee-keeper that has such; or any Iowa bee-keeper that desires to place choice specimens into the Iowa exhibit, may, if he desires, place his name thereon, as an advertising medium. Mr. K. would like to get the name and address of every bee-keeper in the State, to whom a circular, giving further information, will be mailed. Let Iowa bee-keepers respond promptly.

The California State Bee-Keepers' Association meets at the Chamber of Commerce, in Los Angeles, on Tuesday and Wednesday, Feb. 7th and 8th, 1893. The following is the interesting list of subjects to be considered:

Can We Develop New and Better Methods for the Sale of Our Honey—J. H. Martin.

Bees *vs.* Fruit—R. Touchton.

Chemical Composition of Honey and its Adulteration with Glucose and Cane Sugar—Geo. W. Brodbeck.

Reminiscences of California Bee-Keeping—R. Wilkin.

How Shall We Make Our Short Honey Seasons Profitable?—M. D. Mendleson.

Economy in Bee-Keeping—T. F. Arundell.

The evening session of the first day will close with a general social buzz, including vocal and instrumental music.

Birds and Insects that are Injurious to Bees and Fruit.—H. E. Wilder.

Rise and Progress of California Bee-Keeping, and the Aid it Should Receive from the State University—W. A. Pryal.

Honey-Plants of Southern California—L. T. Rowley.

San Francisco Honey-Markets—Wm. Styan.

The railroads will make their usual reduction, and all wishing to avail themselves of lower rates should address the Secretary at once for rebate certificates.

Redlands, Calif. J. H. MARTIN, *Sec.*

Hon. Geo. E. Hilton, who is one of Michigan's State representatives, wrote us on Jan. 13, 1893, that the Rules were suspended the day before, and a Bill passed granting an additional $50,000 for the purpose of making a creditable exhibit at the World's Columbian Exposition. The Bill takes immediate effect. Agricultural exhibits get $17,000 of this, and the bee-keeping department expects $1,000, which will enable them to make a creditable display. Mr. Hilton, we are glad to learn, has been appointed chairman of the important committee on "Roads and Bridges." Good for Michigan!

R. A. Burnett & Co., is the new firm name explained in the following letter:

FRIEND YORK:—I take pleasure in informing you that on the below date I took into partnership two faithful employes, who thereby become the company of R. A. Burnett & Co., which shall, until farther notice, be the style of the firm.

Asking for a continuance to the firm of the favors you have shown me during the past 17 years, I am,

Very truly yours,
R. A. BURNETT.

Chicago, Ills., Jan. 3, 1893.

As heretofore, the above firm will continue to deal in all kinds of farm produce, including honey and beeswax. They are represented in our market quotations on another page.

Freight Rates on Honey.—Our friend, and also the great friend of all honest honey-producers, Mr. Chas. F. Muth, of Cincinnati, O., writes us as follows on the subject of freight rates on extracted honey:

FRIEND YORK:—The very exhorbitant freight rates on honey have been a serious stumbling-block to dealers and bee-keepers. It was a source of general dissatisfaction that freight on extracted honey should be from 40 to 50 per cent. higher than on molasses or syrup, the consistency, weight, nature of packages and value being about the same. We have written many letters to freight agents, the Inter-State Commerce Commission, and others, but the only result obtained was that Gen. McLeod, freight agent of the C. H. & D. R. R., told us to ship our honey as "syrup," and they would rate it as "syrup." The C. H. & D. did it, but other roads did not; and one time when the Big 4 railroad had spilled a barrel of honey for us, and we made our claim for damages, the agent told us that our claim was not valid, having shipped the honey under a wrong name, etc.

Since the Ohio State Bee-Keepers' meeting of a year ago, I have endeavored to interest, for our benefit, the Commissioner of the Freight Bureau of our Chamber of Commerce. Mr. Wilson is a prompt man, and he informed me on Dec. 14, 1892, that the classification has been made, and that the new issue will be promulgated without delay. So honey will hereafter be rated the same as syrup. This is good news, and well for our bee-keepers to know.

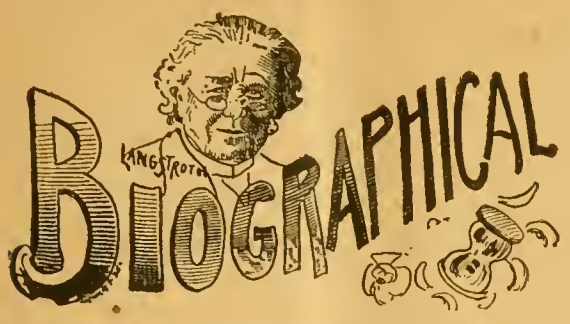
Yours truly,
CHAS. F. MUTH.

Friend Muth has thus added another "star" for the "crown of honor" which he has won in working for the interest of bee-keepers. Finally, through his efforts, justice in the rating of extracted honey, when shipping the same, has been obtained. There never was any reasonable reason why such honey should be classed higher by railroad companies than was syrup. We are indeed glad to publish Friend Muth's success in thus securing for producers of liquid honey what they long have desired. We doubt not that bee-keepers will be very grateful for this knowledge, and the saving to them in freight charges that will now result therefrom.

Bee-Supply Dealers should now begin their advertising for the season—let would-be customers know *where* you are, and *what* you have for sale. Write us for estimates, or consult our advertising rates published on the second page of each copy of the BEE JOURNAL.

One of our best advertisers has just said that this is "the only independent bee-paper in the United States"—we presume because it is *not* interested in the sale of bee-keepers' supplies. Try an advertisement in it now, if you have never used its columns before. Those who have advertised in the BEE JOURNAL know its value without trying—they keep an advertisement running the greater part of the year, if not all the time.

The Ninth Annual Meeting of the Wisconsin State Bee-Keepers' Association will be held at the Capitol, at Madison, on Feb. 8th and 9th, 1893. C. A. Hatch, of Ithaca, is President; H. Lathrop, of Browntown, Recording Secretary; and Dr. J. W. Vance, of Madison, Corresponding Secretary.



DR. C. C. MILLER.

We are glad to have the opportunity this week to give to our readers the picture and biographical sketch of one whose practical and entertaining writings are so well-known to bee-keepers all over the world. The more we have come to know Dr. Miller and his life, the more we have loved him.

At the recent convention of the North American Bee-Keepers' Association he was elected for the second time as its President, having served in that honored position in 1886-87.

Not desiring to keep the reader longer from getting to this interesting story of his life (which is so kindly furnished by his sister-in-law, Miss Wilson, who is a member of the Doctor's family), we here present it:

Dr. C. C. Miller was born June 10, 1831, at Ligonier, a small village in Western Pennsylvania. At the age of 12 he commenced work in a little country store at Laughlinstown, three miles from home. He worked there two years, getting $24 for the first year, and $50 for the second, his washing being done at home.

From there he went into the office of the principal physician of Ligonier, nominally to study medicine, but really as an office boy. After being there for some time, the big words in the medical books he was reading made him decide he needed a better education, and he was allowed to go to school part of the time, working the rest of the time in the office. But this did not satisfy him, and he made up his mind that for a time he must give up the study of medicine, much against the physician's wishes, who told him he never would amount to anything if he was so changeable. He hated to lose his office boy. But he did lose him, for with his usual push the

DR. C. C. MILLER.

young man worked his way through school and college, graduating at Union College, Schenectady, N. Y., at the age of 22. He commenced his junior year with a little more than $26, and graduated with some $70 surplus, after paying all expenses. His fear of debt made him take every opportunity that presented itself for earning money, by ornamental penmanship, teaching classes in mathematics and singing, working in cornfield or garden at 7½ cents an hour, and other ways. In spite of time taken up in this way, he kept the highest standing attainable in his class.

I have before me his old account book, where all accounts of college days were carefully kept, and have been looking it over with no small interest. I have just run over accounts for five weeks, and find that it cost him precisely 32½ cents per week to live. At other times he was more extravagant, as at one place I found the cost 60 cents per week! He boarded himself and did the cooking. In fact, he took boarders, as he boarded his chum for some time at 50 cents per week, though he tells me that his boarder rebelled at one time when he had beef suet in place of butter.

Rice and wheat seemed to have been the chief articles of diet, and the Doctor assures me that a half bushel of wheat boiled goes a long ways. However, I don't believe he would advise others to follow his example, as he paid for it afterward with poor health.

As soon as he graduated at Union, he commenced the study of medicine in earnest at Johnstown, Pa., graduating at the University of Michigan, in Ann Arbor, at the age of 25. He settled down to practice, but was compelled to give up at the end of a year on account of poor health. Teaching school and music occupied his time for some years. For two or three years he worked for Messrs. Root & Cady, at that time the leading music house of the West. Afterward, for the Mason & Hamlin Organ Co., at Chicago. The well-known composer, Dr. Geo. F. Root, availed himself of no little of his services, especially when writing his chief work, "The Musical Curriculum." For several years he wrote for the "Song Messenger," over the *non de plume* of "P. Benson, Sr."—"whitch the Sr. it stans for singer."

Dr. Miller also spent about a year as official agent in getting up the first Cincinnati Musical Festival, under Theodore Thomas, in 1873.

In 1876 he turned his back on a salary of $2,500 a year and all expenses paid, to accept a position as principal of the Marengo public school at a salary of $1.200 a year, paying his own expenses. This he did that he might have more time with his bees, and gradually work into bee-keeping as his sole business.

He began bee-keeping in 1861, with a runaway swarm caught by his wife, which was hived in a sugar-barrel. In the fall of 1871 there were 50 colonies placed in the cellar, most of them weak, as he had increased too rapidly. By the first of April there were only 2 colonies left. During all these years up to 1876, he was away from home most of the time, consequently bee-keeping was rather uphill business.

In 1876, when he came home to live with his bees for good, he had 34 colonies. In 1878 he gave up all other business, commencing the season with 154 colonies, a little more than 400 being the largest number ever reached. Of late he prefers to keep a smaller number of colonies, as much of his time is spent in study, writing, and Sunday-school work.

So many bee-periodicals are published now, that it takes no little time to go through them, especially as a number from France and Germany are included.

For a number of years he has been the chief working officer of the County Sunday School Association, and for two years past President of the 2nd State District, including six counties. This involves a large amount of correspondence and attendance at conventions in each county. Aside from the four regular church services which he attends on Sunday, he conducts on that day a normal training class, made up from the different churches of Marengo, when not absent attending township conventions. In fact, he is a very busy man.

As a writer, he is extremely careful not to overstate the facts plain and practical. But, of his qualifications as a writer, I need say but little, as doubtless many of the readers of the AMERICAN BEE JOURNAL are familiar with his "A Year Among the Bees," and frequent contributions to the bee-papers.

Dr. Miller's musical ability, and his grand voice are among the things he ought to thank God for, and I believe he does, for much of that voice is given to the glory of God. At different times he has gone as singing evangelist, and were he able to be away from home, more of his time would be spent in that way.

Of Dr. Miller's home life much might be written. I will simply say he is an earnest Christian, carrying his religion

into his every day life. His jovial, happy manner at conventions is his everyday manner at home. Full of fun himself, he is quick to see the comical side, as his P. Benson writings show. He will always find someting of the humorous in the most doleful situations, and a joke is none the less enjoyed because it is on himself.

His ability, and willingness to help, lays much work upon his shoulders, both from our Christian Endeavor Society and the church, for I know that our pastor depends upon him greatly.

He is passionately fond of flowers, and roses are his hobby, of which he has some 300 plants. EMMA WILSON.

Albino Bees.—Among the enquiries we have had about these bees, is the following from Mr. E. B. Ellis, of Cooksville, Ills.:

Will you please give, in the AMERICAN BEE JOURNAL, a description of the Albino bees?

1. From whence did they come, and when were they introduced?
2. What are their markings, and in what colors?
3. What are their good qualities, and what their bad ones? E. B. ELLIS.

Mr. A. L. Kildow, who has reared the Albino bees, replies to the above questions thus:

1. It is claimed that they originated in the apiary of D. A. Pike, of Maryland, in the fall of 1873. A queen was reared from a colony of Italian bees, and allowed to remain with that colony until the next spring, when it was found that one-half of her working progeny was mildly marked Italian bees; the other half having white rings or bands. As soon as this was discovered, the breeding out was begun, using the greatest care to get them pure. They were removed to a place where they were not likely to come in contact with other bees, and were kept there until they reproduced themselves with all their distinctive markings; hence the name "Albino" was given.

2. As to their markings, the difference between them and the pure Italian is very striking. About the eyes they approach nearer a purple than that of the Italians. Beginning at the waist, they have three distinct yellow bands, then three distinct white; the white are pure, not muddy and dirty; the wings are fine, and of a bright silver color. Their shoulders and the under part of the obdomen are very thickly coated with white hair. The queens are large, and of a bright reddish yellow, and generally have the white hair, as described in the workers.

3. They are more gentle than the average Italian, and stick closer to the comb, thus making them easier to handle. They are good defenders of their home, have no superiors in honey-gathering, and are as hardy as the race from which they sprang. The queens are very prolific. As yet I have found no bad qualities in the Albino bees.

A. L. KILDOW.

"Southern California" is the title of a handsome, illustrated pamphlet, giving an account of the resources and interests of that unique section, has been received at this office. It contains some fine work in the way of half-tone engravings, and an excellent map of the section. Any one who is interested in the land of honey, oranges, and olives, and desires a copy of this book, can secure one by writing to the Secretary of the Bureau of Information, Los Angeles, Calif., and enclosing a two-cent postage stamp. The book treats of such subjects as the following: The Semi-Tropic Climate, Methods of Irrigation, Growing of the Orange and Lemon, California Prunes and Olives, the English Walnut, and the Almond, Stock-Raising in California, Beet-Sugar Manufacture, Honey-Production, Etc. It cannot fail to interest all who have ever visited California, or who expect at any time to journey to that interesting country.

"The Winter Problem in Bee-Keeping" is the title of a splendid pamphlet by Mr. G. R. Pierce, of Iowa, a bee-keeper of 26 years' experience. It is 6x9 inches in size, has 76 pages, and is a clear exposition of the conditions essential to success in the winter and spring management of the apiary. Price, postpaid, 50 cents; or given as a premium for getting one new subscriber to the BEE JOURNAL for a year. Clubbed with the BEE JOURNAL one year for $1.30. Send to us for a copy.

Bro. Alley Wants War, and no "sham fighting" will suit him either. He wants some one to drop a "big bomb" "right down among the bee-keepers!" He thinks bee-keepers are "getting sleepy." May be they are "hibernating," like some other animals do at this time of the year. Just read the following from the December *Apiculturist*, and see what a wide-awake "young man" Bro. Alley is:

Bee-keepers are getting sleepy. Can't some one of the readers of the *Apiculturist* write an article that will awake them? Who will try it? What is wanted is a big bomb dropped right down among the bee-keepers; so charged that when it explodes, the noise will be heard as far west as California, and with force enough in the east, to break window glass in Nova Scotia.

If something isn't done pretty soon, the bee-keeping community will not arouse in season to reap the honey harvest of 1893.

We have had the Punic bee question; the *Apiculturist* has sent out a warning note; yet bee-keepers sleep right along as though nothing has happened. Who will fire the first gnn?

Now we, here in the West, don't want to be shaken up. Why, many of the folks haven't got settled yet from the election shock—almost "electric shock." We can't see the use in stirring up folks all the time.

We had taken quite a fancy to Bro. Alley, but if he is going to "fire guns" through his *Apiculturist*, he needn't aim them at folks out this way. We are a peaceable people, and don't care to be frightened out of what few wits we have left. We need them; and if any one is going to "drop bombs" or "fire guns" we just want to know it awhile beforehand, so as to have time to get out of the way.

In 1886, Chicago had a few people that advised, and actually did take to throwing, "bombs" to gain their "end." They got their "end"—but it was at the dangling extremity of a rope. Of course, Bro. Alley means "literary bombs," that would be no more harmful than any average "spit-ball" that little boys used to throw at the smaller girls in school. Bro. A. wouldn't hurt any one, but he does know how to handle the English language "without gloves"—and, we hope, without "smoke."

Here are a few seasonable *Api*-thoughts which are also taken from the December issue:

Now that bees are in winter quarters, let them remain so until they commence to carry pollen freely in the spring. It will make little difference what the trouble is with bees in winter, nothing will be gained by overhauling the combs before the colony is fairly wintered through.

The bees should have several cleansing flights before they are meddled with for any purpose in the spring.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Laying Workers—The Queen's Will and the Sex of the Egg.

Dr. Miller, on page 51, rather takes me to task, and says that tradition says that laying workers are never present until after the colony is hopelessly queenless. Now, Doctor, when tradition or theory is proven wrong, I am willing to lay them aside forever. So in hundreds of instances I have had laying workers present before the brood was all sealed, after the queen was removed, and years ago when I kept Cyprian bees I have had every available queen-cell stub, and some drone-cells, chocked as full of laying-worker eggs as a guinea's nest, in 48 hours after the queen was removed.

Now, Doctor, I do not wish to ever make a statement in regard to a matter like this, until I am perfectly satisfied that I am right. So lay down tradition,

and go to sleep on this matter, as far as I am concerned.

I will admit, that in the majority of cases, laying workers are not present until all hopes of rearing a queen is past. While lots of good old traditions are true and correct, I will agree with Dr. Miller that traditions are not the most reliable things in the world. Such as making a witch mad would cause the cows to give bloody milk ; and we must put a horse's shoe in the milk and take it to the supposed witch, by moonshine, to get the witchcraft cured, etc.

Now, right here, in this same article of Dr. Miller's, I feel almost forced to relate some experiments about the sex of the egg, etc., that I was not ready to tell, as I have many experiments under way whose results I wish to relate after awhile. While my examinations under the power of a glass (that makes a nickle look almost as big as wagon-wheel) do not quite agree with Dr. Miller's in regard to the location of the spermatheca, and that the eggs pass from the ovaries through the oviduct in such a manner as to be impregnated, etc., I see nothing in this for us to disagree upon. But, to relate my experience that I speak of is this:

I wish to banish the tradition of mechanical pressure being the means of the sex-changing of the eggs, just like I did the laying worker theory. Now, listen. When this was being discussed a good while ago, I took a gentle old queen that was so full of eggs that she could hardly get her breath, or at least it seemed a misery to her.

Well, I let this queen lay about two dozen eggs on my hand, and I removed them to the combs of a queenless colony, put some in drone-cells, some in worker-cells, and some in queen-cells; and every egg that I got to grow, or that the bees did not destroy, produced worker-bees. Out of the first trial I got three or four workers in drone-cells, and twice as many in worker-cells, and none in the queen-cells. I have tried ten since, and I never have succeeded in getting a queen to lay any but worker-eggs in my hand, or in the cage. I have tried this business until I *must* say that mechanical pressure may lie down and go to sleep, as far as I am concerned.

Now, I have often thought if bees can change the sex of an egg, why did they not make drone-bees out of the eggs I put into drone-cells? Or did the little things "catch on" to my trick, and fool me, as I know queenless colonies love to rear drones as well as queens?

If I were able, I would quit work one year and go on to an island (18 miles out in the sea) one mile wide and about twenty long, that I know of, and experiment with drones from laying-workers, and drones from virgin queens, and those from a queen (Italian) mated to a black drone; and drones from a queen (black) that had mated with an Italian drone, and a whole lot of other experiments too numerous to mention. Take them clear beyond dispute of flight, range, etc. I have thought of trying to get help from the Government, or otherwise, for I would just like to settle these points, so they can be answered with a "yes" or "no." But if I quit my regular work it might not be long until soul and body might be holding a conference as to how long they should stay together; that is why I cannot carry out my experiments.

Now, Doctor, to close this article, please permit me to relate a bit of theory, that two Irishmen were said to try to put into practice. They were said to have gone up on the side-hill above a river to cut some rail-timber, and they felled their trees in such a manner that as soon as they cut off a log it would roll down into the river and be lost. Moikey says to Pat, after becoming tired of the state of things, "I have caught on to a plan to stop the logs."

"Well, Moikey, what is it?"

"Faith, and I will get me a rope, Pat, and toy around me body, while you, Pat, cut the log off."

"All right," says Pat, "Good."

And Pat cut it off, and the log started, and Moikey, not being able to hold it—away went the log with poor Moikey; and as he went rolling into the river, Pat hollowed out, "Hold on Moikey, you are on top half of the toime!"

Now, Doctor, don't think I have compared you to Moikey, but far from it. I thought of this joke, and could not withhold it. So you see this was theory that did not work in practice.

Now, I am glad to know that I am in the same boat with as safe a person as Prof. Cook, and while we are out at sea together, I feel he won't let me drown.

And I had confidence in Dr. Miller, to feel safe in his boat, when he and I go out to sea together, until I saw the way he was willing to have Bro. Root "butchered," and himself escape. Now, Prof. Cook, don't you think that Dr. Miller is getting dangerous, anyhow?

Well, I guess Prof. Cook and I will have to acknowledge that Dr. Miller is a head of us at least half of the time.

J. A.

Number of Colonies for Comb and Extracted Honey.

Query 855.—If 75 colonies is the right number for my range when run for extracted honey, how many should I keep if I work them for comb honey?—Nebraska.

100.—JAMES A. GREEN.

Not many more.—M. MAHIN.

75 to 100.—J. H. LARRABEE.

80 to 90.—MRS. L. HARRISON.

The same (75) —JAS. A. STONE.

75. Why not?—G. M. DOOLITTLE.

About 100 colonies.—H. D. CUTTING.

110 to 125 colonies.—JAMES HEDDON.

I would make no difference.—P. H. ELWOOD.

We cannot see any difference.—DADANT & SON.

The same number, if you wish to.—EUGENE SECOR.

I am not sure, but I will venture to say 85 or 90.—J. M. HAMBAUGH.

I don't think it would make any difference about the number of bees.—E. FRANCE.

From 100 to 150—or as many more as *you* can well take care of.—WILL M. BARNUM.

If for the former you have combs, and for the latter foundation, I should guess you might keep 100 or 110.—R. L. TAYLOR.

Theory says 25 per cent. more, but here in Nebraska we are more sure of such matters after making a test of it. —MRS. J. N. HEATER.

I see no reason why there should be any difference. But I cannot find room here to discuss a matter of so much breadth.—G. W. DEMAREE.

I don't see any reason why more or less than this number should be kept. That is to say, I don't think it makes any difference whether extracted or comb honey surplus is being worked for. —J. E. POND.

I do not think it makes much difference whether run for comb or extracted honey. My theory is that the bees will gather about the same, the difference in yield being consumed in comb building. —C. H. DIBBERN.

I can only state my belief in answer to this query, and that is that I think that 75 colonies run for comb honey would be capable of carrying in just as much nectar as the same number of colonies run for extracted honey.—G. L. TINKER.

I don't think any one can tell what is the right number for his range, as the whole thing is controlled by the season. In some seasons one colony might be too many—and in another season 100 might not be too many.—J. P. H. BROWN.

You've struck new ground, but between you and me, I don't know. I'll only venture this much, that if each colony stores 50 per cent. more extracted than comb, you will not need 50 per cent. more pasture for extracted. —C. C. MILLER.

The point is to keep as many as will secure the best returns. This considers convenience or nearness, and amount of honey. If 75 is the number for extracted, I think it is for comb. I see no reason for a difference. The honey to build comb is still honey.—A. J. COOK.

Try them with the same number. You might guess some year that you could run a greater number for comb than for extracted, but unless there is more uniformity of seasons in your locality than there has been in mine, you will have to guess anew every season.—S. I. FREEBORN.

I think the number of colonies should be about the same, while you would not get as many pounds of comb honey, but the bees would need about the same range, as they would use more honey in comb building. Possibly you might profitably work 100 for comb honey on the same range you worked the 75, but there is nothing certain about this unless you are on an island, as bees may go farther some seasons than others.—MRS. JENNIE ATCHLEY.

Great Premium on page 101!

Report of the North American Bee-Keepers' Convention.

Written for the American Bee Journal
BY W. Z. HUTCHINSON.

(Continued from page 79.)

Dr. C. C. Miller, of Marengo, Ills., was down on the programme for an essay on "The Grading of Honey." He wrote the Secretary that he had nothing better to offer than the article that he contributed to *Gleanings* last June; and he asked the Secretary to read the article, which appears on page 454 of *Gleanings* for June 15th. It reads as follows:

The Grading of Honey.

Although exceedingly anxious that before the convention at Washington, some system of grading should be offered that would be so nearly acceptable to all as to meet general acceptance, yet I shrink from any attempt at formulating such a system. The plain truth is, I don't feel that I know enough for such a task. Yet I have made the attempt to do as requested.

I cannot apologize for the system I offer by saying it is hastily thrown together. It is nothing of the kind. It has been the subject of much care, and the hardest thought I am capable of giving. There is nothing original about it except the string that ties it together. It is a mosaic, made up from all the systems that have been offered, modified somewhat by the discussions I have heard and read. If freely criticised in the right spirit, it is possible that something may be made out of it that shall be satisfactory, even if it be so modified as a result of the criticism that nothing of the original draft can be recognized. But here is the system, having four grades, depending on appearance or condition independent of the source of honey, and four classes of honey:

Fancy.—Combs straight, white, well filled, firmly fastened to wood on all four sides; all cells sealed; no pollen, propolis, nor travel-stain.

No. 1.—Wood well scraped, or entirely free from propolis; one side of the section sealed with white cappings, free from pollen, and having all cells sealed except the line of cells next to the wood; the other side white, or but slightly discolored, with not more than two cells of pollen, and not more than ten cells unsealed beside the line of cells touching the wood; comb fastened to the wood on four sides.

No. 2.—Three-fourths of the total surface must be filled and sealed; wood well scraped of propolis.

No. 3.—Must weigh at least half as much as a full-weight section.

There are the four grades.

For the classes of honey, I would suggest the four already in use, sufficiently understood from the names alone; namely, light, amber, dark, mixed.

You will see that there is nothing new in any of this. It is hardly probable that it will entirely suit any one. It does not suit me. I have not tried to give what would suit any one man, or set of men. I have merely made an attempt to come as nearly as I could to what all might agree upon, each one making some concession for the general good. If some one has something better as a basis to start with, I shall be not only willing, but glad to see this thrown aside and the better taken in its place. But *something* must be taken as a basis. It will not do for each one to offer the system that exactly suits *him*. We'll not get on very fast in that way.

If no better basis is offered than the one I have given, then let each one look it over and see, not what changes must be made to make the plan entirely acceptable, but, rather, let him see what is the least change necessary to make him willing to agree to the system, taking into account what others, as well as himself, may desire.

I see I have made the impression that W. C. Frazier's system suits me better than all the rest. That is hardly true, as will be seen from the system I have attempted; but I like his idea of having a system of grading which does not involve the honey itself, leaving that as a separate classification. Others had the same idea, but did not bring it out so clearly, or, at least, it did not strike me so.

The names of the grades are simple. They are easily understood, both by the producer and consumer. And I don't know why the consumer shouldn't fully understand just what they mean. There will never be a great overstock, I fancy, of honey classed as *fancy*. Perhaps it is drawing the lines rather tightly to say, "All cells sealed." Possibly a certain number of cells next the wood ought to be allowed unsealed. I think very few have been in the habit of sorting out

their best honey into this grade; but the man who puts several tons on a large market could select a number of crates for which an extra price could be obtained, and that without lowering the price of his No. 1 honey.

The No. 1 contains the bulk of a good bee-keeper's crop, and on that account it is the most important of all. The only bee-keeper with whom I have had a chance to talk the matter over, objects to my putting down "ten cells" as the limit allowed unsealed on the poorer side of a No. 1 section. But it seems to me that, so far as possible, everything should be very exact. If such a phrase as "only a few cells" should be used, then some would understand that to mean three, and some fifty. If ten isn't the right number, then make it five, twenty, or whatever is thought best; but don't leave it indefinite. The term "slightly discolored" is indefinite, and on that account objectionable, but I don't see how to better it easily.

In No. 2, not more than one-fourth of the total surface must be left unfilled and unsealed. Possibly it is not necessary to say three-fourths of the surface must be *filled* and sealed, for it will hardly be sealed without being filled. As to the remaining fourth, it may be filled and not sealed, or there may be empty comb or entire vacancy to the amount of one-fourth of the section. Of course, the unsealed part might be on one or both sides. That is, one side might be all filled and sealed, and the other side half sealed, or each side might be three-fourths sealed, or one side may have anywhere from the half to the whole of it sealed, only so that there shall be enough sealed on the other side so that the sealing on both sides taken together shall be as much as three-fourths of the total surface of both sides added together.

The difficulty of adopting a system of grading that shall be satisfactory to all is greater than at first anticipated, so that I do not wonder that some have little faith that any one system can be agreed upon. I think that all agree that the ground of the difficulty lies in the fact that different localities produce different kinds of honey, and each locality wants a system of grading that shall show no discredit upon the honey produced in that locality.

If I am rightly informed, the York State men have no difficulty in agreeing upon a system that suits them; so can the California men; so can the Mississippi Valley men. Now, suppose white clover is the only kind of honey produced all over. There would probably be no greater difficulty in settling upon a system acceptable to all. No. 1 white clover would easily be the same in York State or in Western Illinois; and then suppose that, all over the land, a second crop should be obtained from Spanish-needle. Would not all agree that a No. 1 Spanish-needle section should be just the same as a No. 1 white clover section, except that one was filled with white clover honey and the other with Spanish-needle? and the same way if all the different sources of honey ruled in every location. Now, if I am correct in this, then there ought to be no more difficulty in agreeing upon the grades, as things now exist; and then the only thing to add is, to say what kind of honey is contained—light, amber, dark or mixed.

If any one objects that light, amber, etc., are not distinctive enough, then there need be no difficulty at any time in specifying particularly any one class of honey. Indeed, I should expect that, in time at least, some few particular kinds of honey would come prominently to the front, and that possibly in some markets No. 1 Spanish-needle might be quoted higher than No. 1 light. But the great thing is, to agree upon the grades, to be alike applied to all kinds of honey, and I have some hope that we may reach that. C. C. MILLER.

J. E. Crane—Commission men are opposed to a fancy grade, because it detracts from the sale of the lower grades. Dealers say they have no trouble in selling honey even if the "fancy" grade is mixed with the No. 1. Some people are very particular. They want a nice article, and the dealer gives it to them. Others are not so particular, and they get the combs that are not quite so nicely finished.

W. Z. Hutchinson—I suppose it is upon the same principle that my grocer never sends me any poor butter, yet I pay no more for my butter than the man who is not so particular.

A. N. Draper—These extra-nice people have an extra-nice pocket-book, and they don't object to having it squeezed. I say the fancy grades of honey should be sold for a fancy price.

Frank Benton—I think Mr. Draper is correct.

R. F. Holtermann—Taking one year with another, what proportion do you suppose would rank as "fancy" according to the exact gradings that have been published?

Frank Benton—I do not know. Perhaps not more than 5 per cent.

J. E. Crane—It has been a great disappointment to me that I cannot grade my honey as Dr. Miller proposes to have it graded, but the commission men have always objected. They say, put your fancy and No. 1 all in one grade. If you don't, you will not get much more for the small amount of fancy honey, while the No. 1 will suffer more by the comparison than you will gain by the little extra that you get for the small amount of fancy that you may have. I have never been able to get more than a cent a pound more for the fancy than for the next lower grade; nor more than two cents more for my No. 1 than for my lowest grade.

R. F. Holtermann—I think too much stress is placed upon the few unsealed cells. There is more difference in regard to travel stain.

A. C. Hoopes—I am a dealer here in Washington. I have handled honey here for 20 years. I am not in favor of having a superfine, extra, fancy grade. I would have no pollen in the best grade. No section should be less than three-fourths full.

A. N. Draper—There is the point of pollen. I think that two cells of pollen in a section ought not to throw it over into the lower grade.

J. E. Crane—I think it a little severe that a cell or two of pollen should condemn a section to a lower grade.

H. Segelken—An occasional cell of pollen, or an unsealed cell, ought not to throw a section into a lower grade.

R. F. Holtermann—Upon which would you draw the line closer, pollen or cappings?

H. Segelken—On cappings.

It was in this way that the discussion ran on for an hour or two, and the result was that only two grades were adopted, and they were the first two grades of the grading adopted a year ago at Chicago. The wording was slightly changed in the first grade, allowing sections with the row of cells next to the wood to be unsealed in the fancy grade. The grades as now adopted and approved by the North American, are as follows:

Fancy.—All sections to be well filled; combs straight, of even thickness and firmly attached to all four sides; both wood and comb to be unsoiled or travel-stained, or otherwise; all cells sealed except the row of cells next to the wood.

No. 1.—All sections well filled, but with combs crooked or uneven, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to the above, honey is to be classified according to color, into *light*, *amber* and *dark*. For instance, there will be "fancy light," "fancy amber," and "fancy dark." "No. 1 light," "No. 1 amber," and "No. 1 dark."

While there are some points in the above that are not covered, that of pollen, for instance, and some other omissions, I think it the best plan that has yet been approved by the North American.

Spraying of Fruit-Trees.

This subject was again brought up. A. N. Draper thought something might be done through the manufacturers of pumps and spraying outfits. Get them to recommend in their instructions that spraying during bloom was of little benefit in any case, and in most instances of no benefit, while it was almost always an injury to bees, which are of great benefit to fruit-growers.

Frank Benton—I doubt if we could get the manufacturers to do this. They wish to sell pumps, and have no desire to put any restrictions upon their use. It is well-known that spraying for the coddling-moth does no good until the little apples are formed, and people should be informed upon this point. The Department of Agriculture has a Bulletin upon this point, and it is sent free to all applicants.

R. F. Holtermann—We found it impossible to educate people fast enough, so we have secured the passage of a law forbidding the spraying of trees while in bloom.

Upon motion, a committee consisting of Frank Benton, A. N. Draper and J. E. Crane, was appointed to draft resolutions upon this subject. Later the committee made the following report, which was adopted:

WHEREAS, Strong evidence from various portions of the country has been presented to the North American Bee-Keepers' Association at several of its meetings, to the effect that the spraying of fruit-trees while in bloom has resulted in serious destruction to bee-life through poisoning; and,

WHEREAS, Since the complete pollenization of the fruit-blossoms is of the greatest importance to the fruit-grower himself, and therefore the destruction of the bees is not only a loss to the bee-keepers, but also a great one to fruit-growers; and,

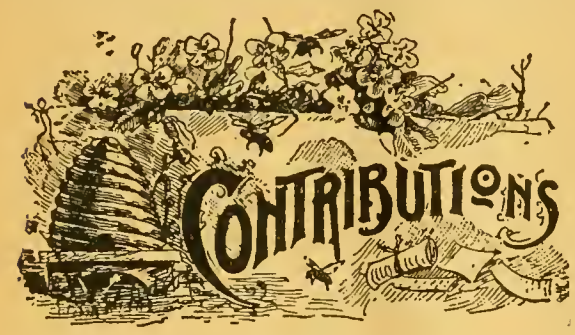
WHEREAS, The possible benefits to be derived by the fruit-grower from spraying during the time of blooming are slight at most; therefore, be it

Resolved, That the North American Bee-Keepers' Association recommends the apiarian societies of the various States to memorialize their respective legislatures to enact such laws as shall forbid the spraying of fruit-trees during the time of blossoming.

Respectfully submitted,

FRANK BENTON,
A. N. DRAPER,
J. E. CRANE. } *Com.*

(Continued next week.)



"Where Are We At" on the Adulteration of Honey?

Written for the American Bee Journal

DR. C. C. MILLER.

In the report of the Michigan State Convention, on page 16, is found the discussion upon the adulteration of honey. More than three-fourths of the space given in the report to this discussion is occupied by Mr. Heddon, and as his name is signed to his argument, it is reasonable to suppose that he is correctly reported. His remarks can hardly be held up as a model for fairness and freedom from sophistry.

His first utterance is, "There is no trouble in enforcing the law against murder." Isn't there? Does every murderer suffer the full penalty of the law? A friend of mine was sitting quietly in front of his home in Chicago in broad daylight, when in cold blood a man came up to him and shot him dead. It was a deliberate, premeditated murder, yet the murderer got off scot free, and has defiantly walked the streets of Chicago for years. If I am not mistaken, statistics show that about one murderer in fifty suffers the full penalty.

Then Mr. H. goes on with the general statement, "There is no trouble in enforcing any law that the people care enough about to have it enforced." I don't believe that is true, and I don't think he will believe it after he has time to think it over; but if it be true, it is a very encouraging thought for those who want rigid adulteration laws, for I think there are in the ranks of bee-keepers a sufficient number of the people who "care enough about" the matter.

Mr. Heddon says the public "don't know nor care whether honey is adulterated or not." Then why all the anxiety and trouble about the Wiley "pleasantry?" Why did the papers take it up and circulate it so industriously? Was it all a mistake on the part of bee-keepers to believe that the mere report of adulteration, false though it was, injured decidedly the sale of honey? Why do the public take so much interest in the Paddock Pure Food Bill? Don't you fool yourself, Bro. Heddon. The public do care, and care a great deal.

Mr. Heddon says: "I think that the adulteration of honey has never injured bee-keeping; that it has rather been a a benefit." The reason given is that the adulterators "made a market for our strong fall honey that otherwise would have been scarcely salable; they pushed its sale, and kept the markets supplied, and I say they have not injured the bee-keeper nor the public." Even if an outlet should thus be made for the dark honey, which may lack proof, what is done with it when adulterated? It is made into lighter honey by being mixed with glucose, if I understand Mr. Heddon correctly, and so the market for light honey has just this much more to compete with. Is this a benefit to bee-keepers?

If adulteration is wrong, Mr. Heddon thinks we ought to attack it where it is doing more harm—in cane syrups and confections. He seems for the time to forget that bee-keepers are looking out for their own interests. I'm not so much interested in the adulteration of coffee, because I don't raise coffee, and I do produce honey. For the same reason the adulteration of honey comes closer home to me than that of syrups and confections.

"Now if we are going to fight adulteration, let us decide why we fight it," says Mr. Heddon, but he doesn't do very much deciding. I think the mass of bee-keepers have decided that they want to fight it for the simple reason that it hurts their market by increasing the supply, and also by making the public suspicious of the genuine article.

"A honey-producer with the right kind of bees and appliances and management, can always produce honey cheaper than he can buy glucose," says Mr. Heddon. It is to be presumed that he has the right bees, appliances and management, and if he can always produce honey cheaper than he can buy glucose and then sell it for two or three times as much, he is hardly wise to be fooling away his time in the publication of a newspaper instead of expanding his honey-production. Guarantee for a series of years to furnish a sufficient amount of honey at 50 per cent. advance on the price of glucose, and I think quite a few bee-keepers would prefer to buy rather than to produce their honey.

"No one is practicing it except the city dealers," Mr. Heddon says. How does he know that? And if adulteration is the nice and good thing that Mr. Heddon represents, why should the bee-keeper leave it to the city dealer? Can't he mix glucose and honey just as well as the city dealer? Even admitting that he can produce honey for less than he can buy glucose, could he not, the past season, have made quite a nice little extra profit by adding to his honey one-third glucose, and then selling at the price of honey?

Mr. Heddon winds up with the statement: "One or two good seasons will stop adulteration so completely that it will amount to nothing." Not a very reassuring statement, certainly. For I suppose that means that a big crop would bring down the price of honey to that of glucose, in which case I suspect a good many would leave the business of producing honey. Just so long as there is a profit in mixing glucose with honey, you may count that adulterators will continue their work, big crop or no big crop, if they can safely do so. Just for this reason an earnest effort is now being made to enlarge the scope of the Bee-Keepers' Union so as to prosecute adulteration, and if the effort is successful I am sure Mr. Heddon will have the good sense to resign the office of President, for it would hardly be in keeping for the President of the Union to take any part in the prosecution of those whom he esteems benefactors of the members of the Union.

The strangest part in the whole affair is the reported reply of Prof. Cook, "Mr. Heddon may be right." I don't believe he said it. At least I don't believe he meant it in the broad sense in which it appears, as applying to all that Mr. Heddon said. Even if glucose may be entirely pure and good, it is a dishonest act to palm it off on the public as honey. But you'd better see and taste for yourself, Professor, those grades of glucose that are really wholesome before you make any apparent concession. And I very much doubt if you find them better than what you tried and pronounced "not good." But whether good or bad, adulteration is still adulteration, and it will be a "cold day" for us if the man who has been the leader in saying brave words against it shall have said his "last word against adulteration."

Marengo, Ills.

How to Catch and Kill Skunks that Molest Bees.

Written for the American Bee Journal

BY H. C. FARNUM.

On having my bees disturbed nearly every night during the fall and early part of the winter by a digging at the front of the hive, and as I was not thoroughly acquainted with the nature of affairs, and being no tracking on snow, so I could see any tracks, I set a steel trap at the entrance of a hive where the pawing was done most, and concluded to have the "chap" that was disturbing my little friends.

Behold, the next morning I had a Mr. Skunk fast. Now I had him, but the next thing was to kill him without scenting everything with his powerful perfume. It was about that time I felt the need of some kind of literature in which I might learn how to kill a skunk and not get killed myself.

But fortunately I had a kind neighbor who possessed the very kind of knowledge which I wished to know, so I hastened to him and told him what kind of a trap I had got into. I asked him for relief, which he granted me at once, by arranging a long pole with a hook at the end to pull the stake to which the trap of the skunk was attached, and led Mr. Skunk to the river, where he drowned him, which proved a very successful way, as it left no scent behind at all.

Since then I have caught quite a number in the same way, the past month affording sufficient tracking snow to follow the little "chaps" home. Of late I have not been troubled any with skunks, and with the exception of a few colonies the skunks raided, my bees are all in good condition, numbering 120 colonies, with sufficient stores for winter.

SUGAR SYRUP FOR WINTER STORES.

The past fall I fed quite a quantity of sugar syrup, which I think is far ahead of dark honey for wintering purposes. Some colonies have scarcely anything but sugar syrup stores, and are in full better condition than those containing all honey.

If nothing prevents, another fall, I shall extract from the brood-chamber at the end of the honey-flow, and feed sugar syrup in place of honey, which, in my opinion, will be better for the bees to winter on, and more profitable to myself.

Transit Bridge, N. Y.

Divided Colonies as Good as from Natural Swarming.

Written for the American Bee Journal

BY J. L. WOOLDRIDGE.

I noticed on page 790 (1892) the question asked, and answered by several prominent bee-men, as to whether or not we can have divided colonies as strong as natural swarms. It seems that the most of those who answered the question seemed to think that we could not. Well, I did not answer the question, and if I had been called upon I suppose I would have left it to somebody more competent than I to answer; but as it was a Texas friend that asked the question, may be my experience will be of interest to him. We are in about the same climate, and I think his bees ought to do as well as mine, that is, if he is in as good a location as mine.

Last spring I had only 7 colonies, and I divided them early in the spring, and took about 800 pounds of what I call first-class honey, and increased from 7 to 20 colonies, all of which are in fine condition for winter.

Now I will tell how I divided, and how the best colony built up, swarmed and stored surplus honey after it was divided, while there were several others that did nearly as well.

Late in the fall of 1891, I purchased some select-tested Italian queens which I introduced successfully. I divided them some time during March the following spring.

Of course I will tell about the one that I think did the best. I moved this colony just a little to one side, then put an empty hive by it. I turned the entrance a little to the right of what it was before, and turned the new one about as much to the left, with the rear ends touching, and the front about 12 or 15 inches apart. Then I took about half of the comb, honey and brood, and put them into the empty hive, leaving the queen in her own hive, and gave the queenless colony a few the most bees, and plenty of eggs to rear a queen from, I left the hives in this position a few days, then turned the backs a little from each other, so as to make them front in nearer the same direction. In a few days I did the same thing again, and so on until they were fronting the same.

Now, I had 2 colonies side by side, both working as if they never had been divided. Of course they were both weak, but the queenless colony built five queen-cells, and instead of hatching one queen and tearing down the other cells, as I expected, she swarmed with a virgin queen, but some returned to the old hive. I went and cut out, as I thought, all the cells that were left, but overlooked one, and the next day they swarmed again. I would have put them back, but thought they were determined to swarm anyhow, and may be would run away the next time, and being from one of my finest queens, I did not care if they run for increase, and not much for honey.

So I hived them on one frame of honey and one of brood. This little swarm filled ten frames 13¾x9 inches, and stored about 100 pounds of surplus honey, which was the most I got from any one of my colonies. The one this swarmed from (which was the queenless one after dividing) built up the same as the other one, and stored about 80 pounds of surplus honey.

Now, I come to the colony with the old queen, thas filled her hive, threw off a fine swarm, and stored about 80 pounds, and I took about 40 pounds from her swarm.

Now I have 4 colonies, all of which have plenty of stores for winter, and I took 300 pounds of first-class honey, which I sold for a good price, that is, as much as I wanted to sell.

These queens that I spoke of were the first ones I ever saw shipped through the mails, or introduced in new colonies, and I never saw a colony divided before I divided mine, and never have seen one divided since. If some one can give a better plan to divide, it will be kindly accepted. I will give it a test next spring, and satisfy myself as to which is the best here in Texas—dividing or natural swarming.

Ennis, Texas.

Various Bee-Notes and Comments on Things.

Written for the American Bee Journal
BY O. P. MILLER.

On page 822 (1892), Mr. Demaree says that bees can only take food in a liquid state, which I believe. If this is so, what will we do with the statement from reliable people that I have heard say, and I have read it in bee-literature, that a boiled chicken put into the hive of a starving colony they will devour greedily, and winter on it? I have heard an old, reliable man say this. I also heard the same man say that he had wintered his bees on corn bread by baking a large loaf, then split it in two, and while hot put molasses on it, and by the next morning it was all devoured by the bees.

My bees seem to be doing well in their winter quarters in the cellar, where they have been ever since Nov. 1st.

I am much pleased with the AMERICAN BEE JOURNAL, and with its new dress. I think that the one article, on page 823, is worth the subscription price for one year, although I have been following the plan there suggested, yet I have gathered some new ideas from the article.

My report for the past season, though not a good one, is as follows:

I had 40 colonies, spring count, took about 2,300 pounds of honey, most of it being white clover and linden. I sold (and gave away) $160 worth up until now, and still will sell some more. I increased by natural swarming to 58 colonies, nearly all in good condition for winter.

I find no trouble in selling my honey at an advance of from 2 to 5 cents more per pound than that put upon the market. I also find no trouble in selling to parties who once purchase of me. My rule is to sell none but the best article of both kinds, and guarantee every pound of it. Some ask, "Must we keep it in the cellar, where it is cool?" I answer no; put it in the pantry or kitchen, and if it sours, let me know, and I will give you two pounds for every one that sours. I have been in the market for 6 or 8 years, and never had to replace a pound of sour honey, nor have I ever had to carry any over until the next year. I sell my honey to consumers, and take it to their houses.

I plant buckwheat for my bees, and this year, they have stored quite a good amount of honey from this plant, and I got a nice lot of the grain, which I consider all clear gain, as I got enough of the honey to pay for the seed and sowing, and the patch was too wet in the forepart of the season to farm, and would have grown up in weeds had it not been for the buckwheat. I can nearly always find some such patch on my farm. By planting the buckwheat, the ground was in fine order, and is now in winter wheat. I intend to sow a small piece of stumpy land in the spring to buckwheat early, so as to come in between white honey and fall honey; about that time it is generally dry here, and no honey, but last year I drilled in a row in my garden, and the bees worked on it at that time of the year.

I received a circular, a few days ago, advertising (to me) a new variety of clover, called, I think, "purple clover." The blossom is long, and the plant seems to be quite full of bloom. They want $10 per bushel for the seed, or 20 cents per pound. Does any of the readers of the BEE JOURNAL know anything about this new plant?

Glendon, Iowa, Dec. 27, 1892.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.
Jan. 28—Ontario Co., at Canandaigua.
Miss Ruth E. Taylor, Sec., Bloomfield, N. Y.

Feb. 7, 8.—California, at Los Angeles.
John H. Martin, Sec., Redlands. Calif.

April 5, 6.—Texas State, at Greenville, Tex.
A. H. Jones, Sec., Golden, Tex.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon..Dowagiac, Mich.
SEC'Y AND MANAGER—T. G. Newman, Chicago.

Webster's Pocket Dictionary we offer as a premium for sending *only one new* subscriber with $1.00. It is a splendid Dictionary—and just right for a pocket.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Bee-Keeping Improves the Health.

I have 15 colonies of Italian bees in winter quarters, put in on Nov. 19th with plenty of honey and strong with bees. I commenced the spring of 1892 with 7 colonies of Italian bees, they increased to 18 colonies, and gave me 450 pounds of surplus honey, besides having plenty to winter on. My health is poor, but it helps me to work among the bees, and I long for spring to come so that I can be among my pets again.

I could not keep bees very well without the BEE JOURNAL. It is a welcome visitor 52 times a year.

JESSE B. LEWIS.

Weston's Mills, N. Y., Jan. 13, 1893.

Wintered Without Any Loss.

Last winter I wintered 100 per cent. of my colonies, 12 in all, increased them to 18, and took 360 pounds of comb honey, mostly in one-pound sections. Every colony had plenty of honey for winter, viz.: from 35 to 75 pounds each. Perhaps I should have extracted part of it from them, but I didn't have an extractor, or the time, but expect to give them more attention this year.

G. W. BELL.

Bell's Landing, Pa., Jan. 9, 1893.

Experience in Wintering Bees.

Having bought 17 colonies of bees, I will give the readers of the BEE JOURNAL the benefit of my experience in the wintering of the same. About Nov. 15, 1892, these bees were packed in clamps with chaff and straw packing about 6 inches in thickness on the sides, and one foot on top. They were left in the open yard where the hives were in the summer, and at present they appear to be in good condition. The hives were covered with gunny-sacks filled with chaff about 6 inches in thickness, before the loose chaff and straw was put on. Through a mistake made in leaving the oil-cloths (that had been used to cover the hives a year ago last summer) on top of the hives when they were put in in the fall of 1891, we lost the greater part of them last winter. Starting with only 4 colonies in the spring, we put in the 17 for the winter. With the exception of the loss last winter, as mentioned, we have never had any trouble in wintering. I expect to continue in the business from this time on, and am glad to acknowledge the help I derive through the AMERICAN BEE JOURNAL.

MRS. CHARLOTTE MARDEN.

West Weston, Wis., Jan. 12, 1893.

Bees in Good Condition.

Bees did very poorly the past year. All the surplus we got was from the first cutting of alfalfa, after that the grasshoppers destroyed most of the bloom. I got about 10 pounds of honey per colony. Some got none. Bees are in good condition for winter. I have 100 colonies. F. H. MCDONALD.

Star, Idaho, Jan. 2, 1893.

Most Open Winter Ever Known.

Bees have wintered well here so far. We are having the most open winter here that I have ever known. There is no snow, and the ground is dry in some places. R. T. RHEES.

View, Utah, Jan. 13, 1893.

Some Experinece in Bee-Keeping.

I started last spring with 40 colonies, spring count, and let them increase to 53. I put sections on 38 of that number, and took about 700 pounds of honey altogether. About 60 pounds of it was extracted. I put my honey in groceries to sell, and it was retailed at 20 cents; that gives me about 16 or 17 cents a pound. I pay 15 or 20 per cent. for selling. I believe I can say that I hear of no complaint from any, but that my honey is very good. Even those that bought of me in 1891, with some honey-dew in, bought of me again the past season. I put into winter quarters 45 colonies, having lost two, one with the diarrhea, and the other became queenless. I sold three, and that left me 40 colonies. My health has been very poor all summer and fall, although some better now. In view of

the condition of my health, I sold 50 colonies of my bees for fear I would not be able to care for them another year, but if my health keeps on getting better, I may stock up again in the spring. It is the only thing that I have worked at for six years, and made more in the last year than in any two years before. The reason is, I understand it better. Bee-keeping is not all learned in one or two years, but it takes one's lifetime, almost, to make a success of the business. I have learned a great deal from the AMERICAN BEE JOURNAL, and may it live long to educate the people in the science of handling bees, for I know from my own experience that there are only a few that will make a success at the business. One has to go at it with an eternal vigilance or grit, to make anything out of it. IRA ADAMSON.

Winchester, Ind., Jan. 6, 1893.

Brood-Chambers Well Filled.

I lost 15 colonies out of 21 last spring, and the others were reduced so low that they hardly built up. When the white clover blossomed they worked on it very little. I had 5 late swarms, and as I wanted the bees I did not put the sections on until late, and only got 10 to 12 pounds of honey in partly-filled sections. The late honey-flow seemed to be better, and the brood-chambers were well filled with honey and bees. My farm crops were on a par with the bees—not one bushel of apples on some 90 trees, and very little small fruit. EDWARD H. BEARDSLEY.

Deer Park, Ills., Jan. 9, 1893.

Bee-Keeping in Tennessee, Etc.

My neighbors keep bees. I try to keep bees. My neighbors don't read any bee-papers. I read all that I can get hold of, and wish for more. My neighbors don't wish for anything in the way of bee-literature, beause they think they are versed in apiculture, and the old box-hive thrown in. I have 14 bee-keeping neighbors within four miles of me representing 72 colonies of bees. I represent 25 myself—in all, then, 97 colonies, all black bees except my own. My bees were housed up from November until Dec. 31st, when they had a good flight. The weather has been very cold here, the mercury standing at 10° to 50° above zero for about three weeks. On Dec. 31st it was up to 60° above. I do not see why the bee-keepers of Tennessee don't have associations and conventions, and so on. Are they not as able as the bee-keepers of other States? or is it because they don't want anything of that kind, or don't care?

I send a stalk of clover that I found last summer. Please tell what kind it is. A. C. BABB.

Greenville, Tenn., Jan. 2, 1893.

[It is Alsike clover, one of the best honey-yielding plants, as well as being excellent for feeding stock.—ED.]

Too Rainy—Too Cold—No Nectar.

The honey season of 1892 was the poorest we have had for the past eight years in this locality. Last spring I put 24 colonies of hybrid bees on the summer stands, and all were in good condition, and with plenty of honey to start—from 15 to 18 pounds per colony. They did not gather one pound of comb honey, and most of the colonies not enough stores for winter. The cause was too much rain, and too cold in the earlier part of the summer. There was no nectar in the flowers, either.

C. F. PRUSSING.

Fountain City, Wis., Jan. 4, 1893.

Poor Season—Cold Weather.

This has been the poorest season for years in Central New York. But few have obtained any surplus at all. I commenced the season with 24 colonies, increased to 36, and obtained 600 pounds of comb honey, mostly from buckwheat and golden-rod. Basswood blossomed profusely, but yielded nothing. I am wintering 9 colonies in chaff hives, and 27 colonies are in the cellar—all seem to be doing well. The weather has been very cold so far, temperature being below zero a number of times.

F. F. HARRINGTON.

Lena, N. Y., Jan. 4, 1893.

Bountiful Crop of Honey Secured.

The season of 1892 will long be remembered by me for its bountiful honey-flow. Forty-six colonies, spring count, gathered 4,342 pounds of honey, all extracted but about 75 pounds. There was a continuous honey-flow, more or less, during June, July and August, but September was a surprise, being cold and wet, so that I had to double up a few colonies that I had expected to build up for winter, and feed back about 300 pounds of honey to put my bees in a

somewhat reliable condition for wintering. My increase was to 98 colonies—52 colonies increase, and 4,000 pounds of honey from 46, spring count, ought to satisfy (if it is in our nature) a fellow even if he is in California. I have inquired of other bee-keepers in this county (Manistee) as to their crop, but they do not report anything extra.

WALTER HARMER.

Manistee, Mich., Jan. 16, 1893.

Success in Wintering Bees.

I have as good luck in wintering bees as most bee-men. I have a cellar 18x28 feet, all brick, 13 inches thick, with three windows in it. I put my bees into this cellar, and I keep the east window out all winter, but covered with boards. I have one chimney in the center of the house, and it is built from the bottom of the cellar. There are two holes in the chimney in the cellar, and a part of the time I keep the holes open, and the draft draws fresh air from the open window. My bees seem to do well. I have 55 colonies. I have kept a few bees for 15 years. I also give the bees upward ventilation, leave off the honey-board, and keep the cellar cool and dry.

C. W. BLAKLEY.

Pre-emption, Ills., Jan. 4, 1893.

Milkweed and Buckwheat Honey.

I began the season of 1892 with 27 colonies, 7 of which were in such poor condition that they yielded neither honey nor increase. I secured 2,000 pounds of milkweed honey, and about 200 pounds of buckwheat honey—extracted. I had 100 one-pound sections of comb honey, all of which, with 40 pounds of extracted, came from one colony. I have 34 colonies in the cellar, and 4 in a snow-drift. Basswood produced no honey last year.

CLARK A. MONTAGUE.

Archie, Mich., Jan. 12, 1893.

Sow Alsike Clover for Honey.

The last was a poor season in this vicinity. I had 38 colonies in the spring, increased to 58, and had 400 pounds of comb honey. The honey was stored from Alsike clover, as there was no surplus before the clover was in blossom, and none after it was out of blossom. White clover was quite plentiful, but bees worked on it very little. I think that Alsike clover is the surest to yield honey of any plant I know, and it is good for hay or pasture, when mixed with timothy; but for seed it must be sown by itself, as you cannot separate the seed. I have a new stocked piece of 13 acres, and there is as much more in the immediate vicinity, so I am expecting a crop of honey next season.

I. W. ROLLINS.

Elgin, Minn., Jan. 14, 1893.

Still Likes Bees and the Bee Journal.

I must have the BEE JOURNAL while I am able to care for the bees. In a few days I shall be 84 years old, but the bees interest me as much as ever. I have had every number of the BEE JOURNAL since it became a weekly. I could not be comfortable without it.

L. EASTWOOD.

Waterville, O., Jan. 10, 1893.

Stored Only Enough for Winter.

I took my first swarm from a tree late in the fall of 1891, and I fed them about 35 pounds of sugar syrup, besides the brood-comb that I got out of two other trees. They wintered in good condition in the cellar, and last season they gave me one large swarm, but quite late, so I fed them a little. I think they are doing well, but I don't know, as I cannot handle them very well. It has been a poor year, for bees here stored only about enough to winter on.

Huntington, Vt. W. E. MARTIN.

Prefers Double-Walled Chaff Hives.

In 1892, from 48 colonies, spring count, I got 400 pounds of comb honey and 110 pounds of extracted. This was my first season, and it rained every day in May and June, excepting three days. I examined my bees on July 3rd, and some were ready to starve, but they picked up after that. I have now 76 colonies in good condition for winter. My hives are all double-walled chaff hives, made by myself. I have yet to lose the first colony in those hives. I prefer them to all others. I have been keeping bees for 7 years.

FRED STREHLE.

Delhi Mills, Wis., Jan. 16, 1893.

Have You Read that wonderful book Premium offer on page 101?

AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

199 RANDOLPH ST., CHICAGO, ILLS.

TO CORRESPONDENTS.

The Bee Journal is sent to subscribers until an order is received by the publishers for its discontinuance, and all arrearages are paid.

A Sample Copy of the BEE JOURNAL will be sent FREE upon application.

How to Send Money.—Remit by Express, Post-Office Money Order, or Bank Draft on New York or Chicago. If none of these can be had, Register your Letter, affixing Stamps both for postage and registry, and take a receipt for it. Money sent thus, IS AT OUR RISK; otherwise it is not. Do not send Checks on Local Banks—we have to pay 25 cents each, to get them cashed.

Never Send Silver in letters. It will wear holes in the envelope, or may be stolen.

Make all Money Orders Payable at Chicago, Ill.—not at any sub-station of Chicago.

Postage Stamps of any denomination may be sent for any fraction of a dollar; or where Money Orders cannot be obtained, stamps for any amount may be sent.

Subscription Credits.—The receipt for money sent us will be given on the address-label of every paper. The subscription is paid to the END OF THE MONTH indicated.

Do not Write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Emerson Binders, made especially for the AMERICAN BEE JOURNAL, are convenient for preserving each weekly Number, as fast as received. They will be sent, post-paid, for 50 cts. each. They cannot be sent by mail to Canada.

Lost Numbers.—We carefully mail the BEE JOURNAL to every subscriber, but should any be lost in the mails, we will replace them if notified before all the edition is exhausted.

Always State the Post-Office to which your paper is addressed, when writing to us.

Special Notices.

The Date on the wrapper-label of this paper indicates the *end* of the month to which you have paid for the JOURNAL. If that is past, please send us one dollar to pay for another year. This shows that Mr. Porter has paid his subscription up to the *end* of December, 1893:

Wallace Porter Dec93
Suffield, Portage co, Ohio

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club.*
The American Bee Journal.....	$1 00	....
and Gleanings in Bee-Culture....	2 00	.... 1 75
Bee-Keepers' Review.....	2 00	.... 1 75
The Apiculturist.....	1 75	.... 1 65
Bee-Keepers' Guide.....	1 75	.... 1 65
American Bee-Keeper.....	1 50	.... 1 40
Canadian Bee Journal.....	2 00	... 1 75
Nebraska Bee-Keeper.....	1 50	.... 1 35
The 8 above-named papers	6 25	.... 5 25
and Langstroth Revised (Dadant)	2 40	.... 2 25
Cook's Manual	2 00	.... 1 75
Doolittle on Queen-Rearing.	2 00	.... 1 65
Bees and Honey (Newman)..	2 00	.... 1 65
Advanced Bee-Culture.....	1 50	.... 1 35
Dzierzon's Bee-Book (cloth).	2 25	.... 2 00
Root's A B C of Bee-Culture	2 25	.... 2 10
A Year Among the Bees	1 50	.... 1 35
Convention Hand-Book.....	1 25	.... 1 15
Illustrated Home Journal ..	1 50	.... 1 35

Do not send to us for sample copies of any other papers. Send for such to the publishers of the papers you want.

Doolittle's Queen-Rearing book should be in the library of every bee-keeper; and in the way we offer to to give it, there is no reason now why every one may not possess a copy of it. Send us one new subscriber for a year, and we will mail the book to you bound in paper, as a present.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

"Bees and Honey"—page 101.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, January 21st, 1892 :

CHICAGO, Ill.—There are occasional sales of best grades of comb honey, but the retailers are not yet sold out on supply laid in before the holidays. Prices are a little easier, especially on that which will not grade "fancy"—such brings 17@18c., and other grades 12@16c. Extracted, 6@9c., as to quality.
Beeswax—22@25c. R. A. B. & Co.

CHICAGO, Ill.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted,fair supply, with good demand at 8½ ; dark, 6@7c. Beeswax—23@25c. J. A. L.

CINCINNATI, Ohio.—Demand from manufacturers, for extracted honey, was slow for the last few weeks, while there was, and is still, a fair demand from consumers for family use. There is no choice comb honey in the market. Best white comb brings 14@16c. Extracted honey brings 6@8c.
Beeswax—Demand fair, at 23@25c. for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO. Calif.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, Mass.—Comb honey is selling slow, very much slower than we like to have it. and it is our experience that when we start honey in at a high price, it sells hard right through the season. We quote our market nominally at 17@18c. for best white honey, 1-lb. combs. Extracted, 8@9c.
Beeswax—None on hand. B. & R.

KANSAS CITY, Mo.—Demand good, supply very light. White 1-lbs., 16c. Extracted. 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS,Minn.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, Mo.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

ALBANY, N. Y.—Our honey market is slow on account of cold weather, but our stock was never so light as now. We have less than 50 cases of honey on hand, and only one barrel of extracted; when usually we have 1,000 cases in stock. For honey not granulated in comb,we quote: White (small),15@18c.; mixed 13@14c.; dark, 10@11c. Large comb and double glass sell for 1 to 2c. less per lb. Extracted, white, 8½@9c.; amber, 7¼@8c.; buckwheat, 7@7¼c. H. R. W.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. Burnett & Co., 161 South Water Street.
J. A. Lamon. 44 & 46 South Water Street

New York, N. Y.

F. I. Sage & Son, 183 Reade Street.
Hildreth Bros. & Segelken.
28 & 30 West Broadway.

San Francisco, Calif.

Schacht, Lemcke & Steiner, 10 Drumm St.

Minneapolis, Minn.

J. A. Shea & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.

Hamblin & Bearss, 514 Walnut Street.
Clemoms-Mason Com. Co., 521 Walnut St.

Albany, N. Y.

H. R. Wright, 326 & 328 Broadway

Hamilton, Ills.

Chas. Dadant & Son.

Cincinnati, Ohio.

C. F. Muth & Son, cor. Freeman & Central avs.

Convention Notices.

NEW YORK.—The 4th annual convention of the Ontario County Bee-Keepers' Association will be held in Canandaigua, N. Y., on Jan. 28, 1893. All are invited.
Chester Olmstead, Pres.
East Bloomfield, N. Y.

CALIFORNIA.—The 2nd annual meeting of the California State Bee-Keepers' Association will be held in the Chamber of Commerce in Los Angeles, Calif.. on Feb. 7th and 8th, 1892. Programmes will soon be issued, for which address, John H. Martin, Sec.
Redlands, Calif.

NEW YORK. — The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.
H. C. Farnum, Pres., Transit Bridge, N. Y.

TEXAS.—The Texas State Bee-Keepers' Association will hold its 15th annual convention in Greenville, one mile north of the Court House, at the apiary of Mrs. Jennie Atchley, on Wednesday and Thursday, April the 5th and 6th, 1893. One of the biggest bee-meetings ever held in the South is anticipated. Everybody is invited. No hotel bills to pay. Come one, come all, and let us have a lovely meeting, and an enjoyable time. All bee-keepers invited to bring along something to exhibit. A. H. Jones, Sec.
Golden, Texas.

Please Don't send to us for bee-keepers' supplies. We do not deal in them. If in need of anything for the apiary *except a good bee-paper*, just send for the catalogues of some of our advertisers. They will be glad to fit you out, and do it well.

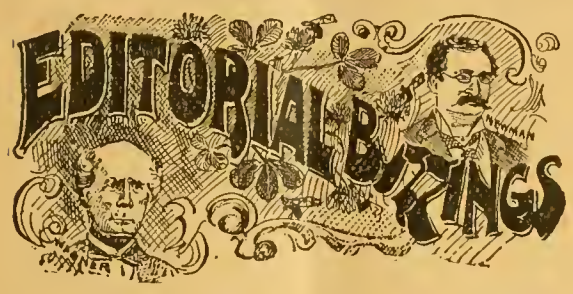
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., FEBRUARY 2, 1893. NO. 5.



REMOVAL NOTICE.

In order to get better accommodations, and for greater convenience, we have moved the AMERICAN BEE JOURNAL into a new office, at 56 Fifth Avenue, near the northwest corner of Randolph St. Our correspondents, and friends who may desire to call upon us when in Chicago, will please bear in mind our new place—56 Fifth Avenue.

Those Sugar-Honey Folks.

—The following, which we have received from Dr. Miller, of Marengo, Ills., shows what he thinks of what has been said in the BEE JOURNAL about the sugar-honey folks and their proposed sugar-honey:

The "Old Reliable" seems not to be very strongly in favor of the sugar-honey business. In fact, if my knowledge of the English language is not at fault, it is decidedly "furnenst" the whole business. That's all right, and I'm with you. I like your attitude toward the business. But I don't like your attitude toward Prof. Cook and Editor Hutchinson. Or, rather, your seeming attitude, for I think I know all the parties well enough to know that both Mr. Newman and Mr. York count Messrs. Cook and Hutchinson as good, straight men.

And yet I am inclined to think that a stranger to the controversy, seeing for the first time a copy of the AMERICAN BEE JOURNAL, would understand that you both thought the two Michiganders very bad men. True, you say, Mr. Editor, that you do not believe any harm was *intended*, but the general reader is very likely to lose sight of that when he reads in the letters published such expressions as "nefarious swindle," "contemptible act," "advising adulteration," and the like.

Please, please, dear friends, don't let us lose our heads, and above all, don't let us lose our hearts, forgetting the "mantle of charity." Let us look at the matter dispassionately. But you say, "How can we look at it dispassionately when one of our own number clearly and distinctly advises adulteration at the very time we are making an effort to kill it?" But, my friend, no one advises adulteration, and are you not just a little previous in saying so? And then you reply, "Oh, well, I have no patience with such namby-pambying. Haven't they advised feeding sugar to have it stored? And isn't mixing sugar with honey, adulteration, no matter whether done with or without the intervention of the bees?"

Now, look here; don't go off at a tangent. Don't you know that everything depends upon the circumstances, and especially the motives. And to your last question I answer a blunt "No; not always. Hundreds of good bee-keepers have mixed honey and sugar to feed bees for winter stores, and there was no adulteration about it."

These brethren believed (and please don't forget that they two were not

alone in their belief) that when bees lick up sugar syrup and put it into cells, they so change it that it is honey just as much as if in place of sugar syrup they had had the nectar from white clover. Believing that, was there anything criminal in their saying it?

"But look at the results, actual and possible," you say. Yes, I admit they are bad, and they look worse to me now than they did at first. But I insist that the intent was good, no matter how mistaken. A townsman of mine gave to one of his children, by mistake, morphine instead of quinine, resulting in the death of the child, but no one viewed him with anything but pity, for there was no evil intent. Let us not fail to discriminate between errors of the head and errors of the heart.

Under the circumstances, it seems to me that Messrs. Cook and Hutchinson have done a manly thing in saying that if the mass of bee-keepers so desire they will say no more; for I'm afraid some of us would be so stubborn and mad that we would go on in our own pig-headed way, just so long as we could not see that we were in the wrong.

I think it is the wish of nearly all that the whole unfortunate business may sink into oblivion as rapidly as may be, and this will not be helped by bitter words. I don't know of anything better to do now then to let everything pass in silence, and all of us keep sweet.

C. C. MILLER.

When we read the foregoing we couldn't help saying, "Now that's just like our good Dr. Miller. He's so kind-hearted that he'd almost rather take a thrashing himself than to see some one else get it, whether the other fellow deserved it or not." We may be unfortunate, but we are "not built that way." When we have committed a wrong we expect to suffer for it, unless by showing sincere repentance we may be forgiven.

Now as to "Prof. Cook and Editor Hutchinson" in this sugar-honey affair—why, of course, we have always counted them as "good, straight men." We never had any reason to think them otherwise, until they attempted to defend sugar-honey production. When they switched off on that side-track, why they just "switched" while *we kept right on the main line.* We are not to blame for their "switching."

The Doctor intimates that it was an error of the head and not of the heart. He may be correct, but we certainly have not as yet seen any such admission on the part of either Prof. Cook or Mr. Hutchinson. The only statements we have seen are those they made in *Gleanings* for Jan. 15th, which are simply, in the main, a reiteration of former assertions that bees do make honey out of sugar syrup. Of course, Mr. Hutchinson says he will publish nothing more on the subject in the *Review*, and yet tells of another Professor who has sent him an article in which he sustains what has been published on the sugar-honey subject and says that bee-keepers who oppose it are ignorant, etc.! Mr. Hutchinson sent exactly the same thing to the BEE JOURNAL, but, of course, if he had taken a second thought, he would have known that we could not consistently publish it.

We can assure Dr. Miller, and al other kindly-disposed people, that just as soon as either Prof. Cook or Mr. Hutchinson are ready to do the manly act of admitting their mistake, and show a desire on their part to as far as possible right the wrong done (unconsciously and unintentionally it may be) the pursuit of bee-keeping—when they are prepared to thus do the "manly thing," why, the columns of the old AMERICAN BEE JOURNAL will simply fly open to receive them, and to help them to regain the honored positions they held a few months ago in the hearts of thousands upon thousands of bee-keepers all over the world. We bear no malice toward them, but feel that they have made a mistake that they should hasten to correct.

The Illinois Appropriation.—At the meeting with the State Horticultural Society Committee, it was decided that the bee-keepers go in with the horticulturists and dairymen in asking for an appropriation from the Legislature, for a World's Fair exhibit, and a Bill is being prepared to go in that way. So says Bro. Stone, the Secretary of the Illinois State Bee-Association.

The "Trowel Theory" of the Rev. W. F. Clarke, which some thought to have gone asleep, seems to be traveling around in a lively manner across the water. A correspondent of the *British Bee Journal* sends to that paper a clipping from the *Pall Mall Budget*, to this effect:

It will be a surprise to many to learn that, says a correspondent of the *Horticultural Times*, after all, the most important function of the bee's sting is not stinging. I have long been convinced that the bees put the finishing touches on their artistic cell-work by the dextrous use of their stings, and during this final finishing stage of the process of honey-making the bees inject a minute portion of formic acid into the honey. This is, in reality, the polson of their sting. This formic acid gives to honey its peculiar flavor, and also imparts to it its keeping qualities.

The sting is really an exquisitely contrived little trowel, with which the bee finishes off and caps the cells when they are filled brimful with honey. While doing this, the formic acid passes from the poison-bag, exudes, drop by drop, from the point of the sting, and the beautiful work is finished.

Whoever the "I" may be, in the above case, any one familiar with Mr. Clarke's "Bird's-Eye View of Bee-Keeping," will see a strange resemblance between the above paragraph and the note on page 60 of said book. The writer of the paragraph, however, has gone a step farther than Mr. Clarke, and assigned to the sting, the duty of *flavoring* the honey. This helps to clear up the sugar-honey question. As the flowers have nothing to do with the flavor of honey, the flavor being given by the sting, find out the condition of the sting when clover or buckwheat honey is stored and by getting the sting in the same condition when feeding sugar, you will have respectively clover or buckwheat honey. And so of honey of any other flavor.

Evidently the editors of the *British Bee Journal* have not carefully read Mr. Clarke's book, for they say the "trowel theory" was started "as a pleasantry, no doubt."

When Bees Need Feeding.—Often we receive questions for the "Queries and Replies" department which should be answered sooner than they would be if allowed to wait their turn. Again, questions are asked that can be as satisfactorily answered by one person as if twenty or more replied to them. The following query we think comes under the two kinds we have referred to, hence we give it here with a reply:

How can you tell whether or not bees need feeding? C. G. R.

The question, doubtless, refers to bees in winter quarters. As a rule, there should be no need for such a question to arise, for bees should go into winter quarters with more than enough stores to carry them through, so that there need be no attention paid to the matter until spring.

Still, there always have been, and probably always will be, cases in which there is danger that certain colonies may exhaust their stores before leaving winter quarters. If, among 100 colonies, there are two or three that need feeding, and you don't know which two or three they are, but must overhaul the whole hundred to find out, then if they are in the cellar it may be best to let them entirely alone and run their chances, but if out-doors, and a good, warm day comes in which they fly freely, you can look to them.

You will tell whether they need feeding in winter just as you would in summer, and that is by actual inspection. Lift out the combs and see whether they contain honey, but be sure that you don't touch them when it is too cold for the bees to fly. In the cellar, if absolutely necessary, you can examine them at any time, disturbing the bees as little as possible.

If, on glancing over the tops of the combs without lifting them out, you see quite a little sealed honey near the top bars, there is no immediate danger.

Have You Read page 133 yet

MR. ADAM GRIMM.

As variety is said to be the "spice of life," we must have a little of it in our biographical sketches; so this week we present to our readers the picture and account of the late Adam Grimm—the man who made money by keeping bees. Though not living, the following sketch will serve to show what Mr. G. did in the line of honey-production 15 or 20 years ago, and what may again be accomplished when good seasons once more shall smile upon those engaged in bee-keeping.

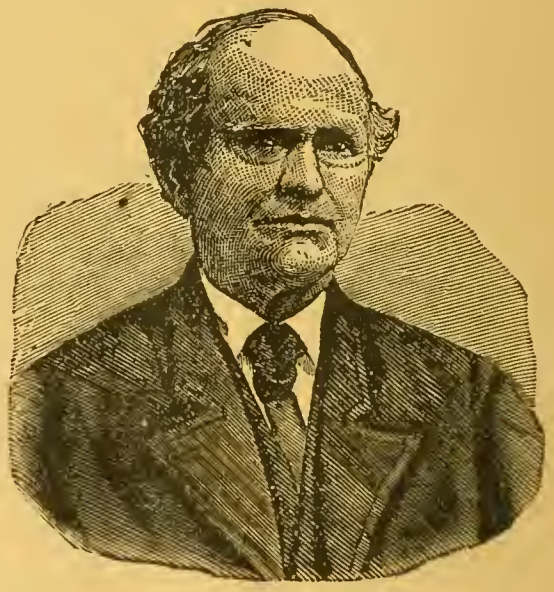
Dr. Miller, in that unequalled "A B C of Bee-Culture," says:

Adam Grimm was born in Germany, in 1824. His father kept a few hives of bees, in which Adam took deep interest, and did not rest satisfied until he himself became the owner of a few colonies. He emigrated to this country in 1849, settling at Jefferson, Wis., on a farm where he remained until his death, which occurred April 10, 1876. Soon after settling at Jefferson he obtained a few colonies of bees, and was so successful with them that at one time, when all other crops failed, his bees came to the rescue and helped him over the most critical time of his life.

In 1863 he had increased his apiary to 60 colonies of black bees, in all sorts of box hives, and in 1864 he commenced to use frame hives, and transferred all his bees into them. In the same year, 1864, he bought his first Italians, and, as rapidly as possible, Italianized his apiary, and then sold large numbers of Italian queens all over the country.

About 1869 or 1870 he imported, personally, 100 Italian queens, 60 of which were alive on their arrival at New York. Of this number he introduced 40 in his own apiaries. He increased his colonies regardless of cost, every year, but had larger returns, especially in late years, both from the sale of honey and bees. Queen-rearing he thought unprofitable. He had an intense enthusiasm in the business, and worked so hard in the apiary as probably to shorten his life. His success was the cause of many others engaging in the business.

He established a bank at Jefferson, of which he was cashier (his bees having



ADAM GRIMM.

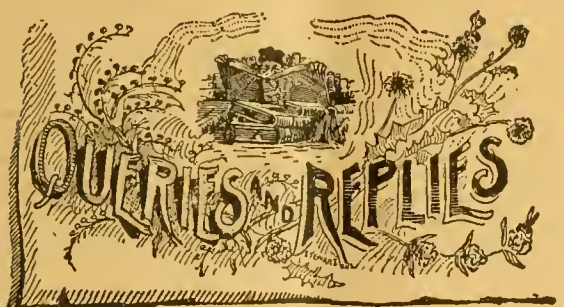
provided the capital); but during the honey harvest he left his bank to the care of employes, and went from one apiary to another, personally supervising all that was done.

We shall not soon forget two or three pleasant visits which we made at his home, with his interesting family. He told us his wife remonstrated with him for working so hard, telling him that he now had a competence, and could give up his bees with the laborious care of so many; but he seemed to think the returns were larger for the amount of labor, making the work still a pleasure, although no longer a neccessity. He

reached the number of 1,400 colonies; and on one of our visits, when he had nearly 1,000 colonies, he said, with a half-comical expression, "What would I do if all should die in the winter?" And then, the comical look giving way to one of German determination, he said, "I would buy some more; and with so many hives full of empty comb, I would show you how soon I would fill them up again."

His daughters, Katie and Maggie (both since married), were his able and faithful assistants; and the son, George, since his father's death, has assumed the principal care of the bees, for which he is well fitted by his previous training.

Mr. Grimm was trim built, of medium size, pleasant in manner, but especially impressing one as of great earnestness. He was very methodical, and kept an exact account of his business, showing, in a single year, $10,000 as the result of his bee-keeping.



Sugar-Cane Syrup for Wintering Bees.

Query 856.—1. Is sugar-cane syrup good to winter bees on, if they are wintered in the cellar? 2. If not, will it do for spring feeding?—Minnesota.

1. Yes. 2. Yes.—C. C. MILLER.

1. Yes. 2. Yes.—DADANT & SON.

1. Yes, undoubtedly.—EUGENE SECOR.

1 and 2. I do not know.—JAS. A. STONE.

1. Yes, but do not feed it if the least bit sour.—W. M. BARNUM.

1. In this I have had no experience. 2. Yes.—J. M. HAMBAUGH.

Bees will winter well on *pure* sugar syrup, but they breed up better on honey.—P. H. ELWOOD.

I think sugar-cane syrup made from granulated sugar is good bee-food at any time and place.—E. FRANCE.

It makes good winter and spring food. I prefer the addition of one-fourth good honey for winter use.—H. D. CUTTING.

1. I have never tried it, but should say it is not. 2. It would probably do for spring feeding.—MRS. L. HARRISON.

1. Yes, if it is made from granulated sugar. 2. Any that the bees would readily take would do for spring feeding.—R. L. TAYLOR.

1. I do not know what you mean by "sugar-cane syrup." If you mean syrup from sorghum, I must answer no to both questions.—M. MAHIN.

1. Yes, sir; better than any honey, if properly prepared. 2. Honey is the best when the bees are breeding and can fly frequently.—JAMES HEDDON.

1. No; use syrup made from the best granulated sugar for winter feeding. 2. Almost any kind of sweet food will do when they can fly.—MRS. J. N. HEATER.

1. I never wintered any bees in the cellar. 2. Almost any kind of syrup that bees will use can be fed in the spring with safety.—MRS. JENNIE ATCHLEY.

I should be afraid to try it where you live—even as far South as I live (Georgia) I have found it a poor substitute for honey or sugar syrup.—J. P. H. BROWN.

1. If cane molasses is meant, no. Syrup from granulated sugar is equal to good honey for feeding. It may do for spring feeding if bees will use it.—C. H. DIBBERN.

1. Yes, if you mean clarified syrup made from Southern cane, or by melted granulated sugar. 2. No, if you mean sorghum or crude from any kind of cane.—S. I. FREEBORN.

1. I do not think it is. I should use nothing but the best granulated sugar. 2. Syrup will answer well enough in the spring, or at any time when the bees can fly out.—J. E. POND.

Fifteen pounds of water put into a vessel of suitable size and brought to a boil, then slowly stir in 30 pounds of granulated sugar and bring the whole

to a boil, after which set from the fire and stir in 5 pounds of honey, gives 50 pounds of as good food for bees to winter on as anything I know of. Would you call this "sugar-cane syrup?" If not, what would it be?—G. M. DOOLITTLE.

Pure cane-sugar syrup is the best food for bees in the winter, in-doors or out. If you mean unrefined sorghum syrup, it is entirely unfit for winter food, though it would do very well for spring feeding—JAMES A. GREEN.

1. I should prefer to transpose the words "sugar cane," for I know "cane sugar" is to be relied upon. 2. Almost anything saccharine will do for spring feeding, provided it is wholesome and acceptable to the bees.—J. H. LARRABEE.

Sugar-cane syrup is all right for spring feeding, but in my own experience, both in cellar and out-door wintering, the natural stores are better. The principal reason was that earlier breeding was promoted by the natural stores, and hence stronger colonies for the harvest.—G. L. TINKER.

Sugar syrup fed to bees and transformed is super-excellent for winter stores. I should prefer to feed it in the fall so as to have it transformed into honey. Fed in the winter might not be as safe. I do not know. In case of necessity I should not hesitate to try it. It is certainly all right in the spring.—A. J. COOK.

The sugar-cane syrup that we used here, many years ago, when re-boiled and prepared, would winter bees safely in this climate (Kentucky). But the stuff I see under this name now-a-days ought to kill any living thing that would venture to swallow it. The best sugar is nearly as cheap, and is quite safe as a winter and spring food when honey is scarce.—G. W. DEMAREE.

Please Don't send to us for bee-keepers' supplies. We do not deal in them. If in need of anything for the apiary *except a good bee paper or book*, just send for the catalogues of some of our advertisers. They will be glad to fit you out, and do it well.

Have You Read that wonderful book Premium offer on page 133?

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Busy Bees and Spring Birds in Texas.

We are dipping cells and starting queens to-day. The weather is fine, with bright sunshine every day. Garden making is the order of the day. Bees are working nicely, and spring birds singing sweetly. Oh, how happy we ought to be! JENNIE ATCHLEY.

Greenville, Tex., Jan. 24, 1893.

The "Nameless Bee-Disease."

Is it not possible that we have two diseases compounded in one, in the so-called "nameless bee-disease?" I think we have, from the fact that most of the writers, in speaking of the disease, say that the workers become slick and shiny from the loss of hair on their bodies, and that they have a nervous or tremulous movement of the wings, etc. But with the disease we have here, none of the slick, shiny, hairless bees are to be seen, and they do not have the tremulous motions spoken of above. In the first case spoken of, they are usually affected more in early spring, and late in the fall than at other times; but in the latter case, they never show it until hot, dry weather begins. In the first case they seem to dwindle along and die off about as fast as the young bees hatch. But in the latter they just die by the wholesale—a strong colony dying out in a few days. They seem to have their natural size and appearance in every way except a few that seem to have their abdomens somewhat swollen.

When a colony first becomes affected its bees will almost stop work and hang in a cluster on the front of the hive, with only now and then a bee attempting to leave the cluster apparently to work; but being unable to fly they crawl off and soon die in the hot sun. At this stage of the disease, the brood and

young hatching bees seem to be healthy and all right, but as the disease advances all of the unsealed brood dies, either from the disease or starvation, and I am unable to tell which; but I am of the opinion that it is for the lack of food, for it seems that the nursing-bees are unable to secrete or prepare food for them. But when the disease reaches this stgae, the old bees will be dying by the thousand. Sometimes the whole colony will die and leave the combs filled with sealed honey, and a good supply of pollen; at other times they will all die except the queen and a mere handful of young, downy workers. Then they get well and build up to good colonies, without any remedy, or any help whatever.

I sent Prof. Cook a cage of sick bees, describing the disease. His reply is as follows:

"I think this the worst form of a bacterial or microbe malady that is becoming worse and worse. I think the Government at Washington would take it up. Suppose you send the enclosed notes to Hon. Edwin Willits, Department of Agriculture. Tell him that I say it is a microbe, and ask him if the Bureau of Animal Diseases will take it up if you will send diseased bees."

I at once wrote to Mr. Willits what Prof. Cook said, and here is a part of his reply:

"The Department apiarist, to whom the matter was referred, thinks from your description that Prof. Cook is quite right in supposing it to be due to some microbe. But, of course, only an extremely careful microscopical examination of freshly dissected bees would determine which of the numerous microbes known to produce disease in bees, this one is, or whether it may not be a new one not yet identified and figured. Such an examination might be undertaken by this Department, if you would send in live specimens of the diseased bees, etc."

This I did, but perhaps it would be nothing but fair to state before giving their reply, that all the worst cases had got well or died before I could send them any sick bees. So the ones I sent were only slightly affected. Here is their reply after receiving the last sample:

"Your letter, and also a cage of worker bees, are received. No bacteriá were found in the tissues or juices taken from these bees alive, and an effort was made to obtain tuberculosis from these by inocculation. But the tubes remained perfectly clear, thus proving the absence of bacteria, and hence no trace of disease due to the latter. Material taken from the abdomens (which were much swollen) of some of the workers that arrived dead, showed under the microscope numerous bacteria, none of which, however, could be recognized as bacillus alvei (foul brood) or bacillus gaytoni (dipilis) the cause of the nameless bee-disease. Probably they were only such as usually develop in the dead tissues of bees, or in the bowel contents of dysentery specimens. In an examination of this kind it is necessary to simplify the matter as much as possible by removing all the other causes tending to produce diseased conditions, and as in the case of the bees arriving dead, indications of dysentery were present—swelled abdomens and bowels filled with a brownish liquid; also cage soiled. It seemed useless to experiment further with them," etc.

Further on in the same letter he says: "As indicated in the answer to your other letter, the remedy most likely to prove effectual is that of replacing the queens of the diseased colonies with those of different blood." That I have done, but all to no purpose. I now have queens to breed from procured from three different States, but it seems to make no difference, all suffer alike with the disease, and I shall call it "bee-cholera" until I learn a better name for it.

L. B. SMITH.

Iometa, Texas.

The Ninth Annual Meeting of the Wisconsin State Bee-Keepers' Association will be held at the Capitol, at Madison, on Feb. 8th and 9th, 1893. C. A. Hatch, of Ithaca, is President; H. Lathrop, of Browntown, Recording Secretary; and Dr. J. W. Vance, of Madison, Corresponding Secretary.

Annual Catalogues or Price-Lists we have received from—

Levering Bros., Wiota, Iowa—Bee-Keepers' Supplies.

E. T. Flanagan, Belleville, Ills.—Bees Keepers' Supplies, Bees, Queens, etc.

W. H. Norton, Skowhegan, Maine—Bee-Keepers' Supplies, Bees and Queens.

John Nebel & Son, High Hill, Mo.—Bee-Keepers' Supplies, Italian Bees and Queens.

G. B. Lewis Co., Watertown, Wis.—Bee-Hives, Shipping-Cases, Sections, Frames, etc.

Report of the North American Bee-Keepers' Convention.

Written for the American Bee Journal
BY W. Z. HUTCHINSON.

(Continued from page 114.)

Next came an essay by Mr. E. R. Root, of Medina, Ohio, upon

Self-Hivers and Their Use.

Up to about a year ago I took but little interest in self-hivers. They seemed to me to be too complicated, too expensive, too everything, in fact, to be available and practical for bee-keepers. So far, they would hive only a third or a half of the bees, and they were, therefore, but little better than a complete failure, for nothing is a success that is only half a success.

At the previous meeting of this association, however, which assembled at Albany, Mr. E. L. Pratt, of Marlboro, Mass., after one of the sessions, drew me to one side, and showed me specifications of his new automatic hiver. Unlike all previous arrangements for the purpose, the bees entered into a new hive on returning from the air, the entrances to which they had long been accustomed. This struck me at the time as being a vital point, and possibly the key to future success. The trouble with the former self-hiving devices that had been brought out was, that the bees on returning, if they followed their queen, which it seems most of them did not, would have to go to a *new* entrance and to a new hive.

Those of us who have had experience in handling swarms with clipped queens' wings, will remember how readily the bees will return to the hive on discovering the absence of their mother; and it is nothing strange that they should rush pell-mell into the *old* entrance, thinking, of course, that she must still be in the hive. It would not matter particularly whether the queen had gone through the perforated-zinc passage-way to another hive—the majority of bees would go to the old place, just the same.

Mr. Pratt, realizing the above fact, placed a new hive that was to receive the swarm, in front of the old one, in such a way that the bees going to and from the field would pass through the new hive into the old one. A set of combs was placed in the former, and a sort of bee-escape was arranged in connection with the perforated zinc in such a way that the queen could readily pass into the new hive, but not back again; and when in the new hive she would be debarred from passing out at the entrance by the perforated zinc. Thus, when a swarm should issue, the bees would fly out in the usual way, and the queen, following or preceding, would enter the new hive, and there be entrapped. The bees remaining out for a few minutes would soon discover the absence of their queen, and return to the old entrance, and, behold, the queen would be in the new hive. From some preliminary trials that Mr. Pratt had been able to make the previous season, he found that the plan worked successfully, and that all of the bees remained in the new quarters.

I told Mr. Pratt, at the time, that this was the only self-hiver that I ever took any fancy to, and that I believed the principle of having the bees go back to an old entrance, and to which they had long been accustomed, was the key to success.

The following summer, we rigged up some 10 or 15 hives, on the principle before stated; and although I was sanguine of success in the very beginning, the result greatly exceeded my expectations. If I remember correctly, there was not a single failure. The colonies were not only automatically hived in every case, but they went to work in their new quarters, building comb, storing honey just as they would have done had they been hived in the old-fashioned way in a new location.

By way of experiment, some of the colonies were left from three weeks to a month, to see what the final result would be. Young bees hatched in the parent colony, and finally began to add their numbers to the swarm. The latter, in the mean time, went to storing honey to the extent of 50 or 60 pounds in two or three instances; and one in particular had stored it to the phenomenal amount, for these poor seasons, of 150 pounds.

Most of the colonies mentioned above were arranged a little differently from what Mr. Pratt originally designed, but not so as to change the essential principle of allowing the bees to go to an entrance to which they had long been ac-

customed. The new hive to receive the swarm, instead of being placed in front of the old one, was placed below. This simplified the arrangement to the extent that it required only one bottom-board, and made it less difficult to adjust the hives so as to be perfectly bee-tight as far as communication from one hive to another was concerned.

The plan that we used so successfully was this: The old hive-body was taken temporarily off from the bottom-board. Another body, precisely like the other, was set in its place. Into this was put a full set of empty combs. On top of this was then placed a board having a couple of holes, on the under side of which, and communicating with said holes, was a sort of queen-escape, made of perforated zinc, like the sample I herewith show you. This is so arranged that the bees can readily pass up and down into either compartment of the hives; but the queen can pass only one way, and that downward; and having gotten into the lower hive she is prevented from getting out into the air by means of perforated zinc. When preferred, the queen's wing may be clipped, and the zinc omitted at the entrance.

The mode of operation is simple. The bees, in working, pass through the new hive not yet occupied, crawl up into the hive above, through the perforated zinc. This seems as if it might be an objection in that the bees are compelled to travel so far before entering the hive proper. This objection exists more in imagination than in actual practice. In a few days, the swarm issues; the queen, being below, is trapped; the bees return, and finding their queen below, seem to accept their new quarters as their new abode. This, in brief, is the Pratt method of self-hiving.

I am not prepared to say that the Pratt automatic hivers will prove to be as successful in the hands of others, because bees do not always follow an invariable rule, especially when their owners try to make them do just as they plan they ought to do, or as they do for others under like circumstances; so it will probably take another year or so before we can speak definitely with regard to its success in the hands of bee-keepers in general.

But an implement may be a success, and yet not be practical. This may be the case with the automatic hiver. At present I fear they are rather too expensive to be used generally by bee-keepers, even if their success as to actual operation is assured. Bee-keepers cannot afford to pay more for self-hivers than it costs to hive swarms in the old-fashioned way. By a little more experimenting I am in hopes that their mode of construction may be simplified enough so as to permit of their general use.

Automatic hivers are old—very old—in principle. Mr. H. A. King used a device that was very similar in principle to the automatic hivers of to-day. But as he did not then have perforated zinc, it could not be made to work successfully.

The late Moses Quinby also used a similar device. Henry Alley, I believe, was the first one to revive the idea of any connection with perforated zinc. Although his was the first, it seems not to have been a complete success, as it hived only a part of the bees—at least I judge so from the reports I have received.

Mr. E. L. Pratt took one step further, and gave us the automatic hiver which I have described here to-day. It remains for some one else now to make it cheaper; and, last of all, for some enterprising editor—if they are a success—to get bee-keepers to use them.

ERNEST R. ROOT.

Frank Benton—I fear that in counting the cost of the hiver, Mr. Root forgets that a hiver lasts several years. It lasts as long, or longer, than a hive. The cost is but little more than the interest on the money.

W. Z. Hutchinson—At our late Michigan State Convention, Mr. Heddon said that as soon as a hiver was brought out that was practical and successful, he would put one on every hive, though they cost as much as hives. The great cost, in his estimation, in the production of honey, is the labor, and any arrangement that will allow a man to manage his bees without constant attention will eventually be adopted, even if it does cost something. Instead of a trap at the entrance, Mr. Heddon would use a queen-excluder under the hive.

R. F. Holtermann—The honey-boards would be needed for other purposes at that time.

E. R. Root—One objection to the use of honey-boards under the hive is that they become stopped up by the drones getting their heads fast in the zinc and dying there, and there is no way of removing them without lifting up the hive. When an entrance-guard becomes stopped up in this manner, a stick can be run over it in a "jiffy," and the drones' heads rubbed off, and thus the entrance is kept clear.

W. Z. Hutchinson—Mr. Heddon's objection to an entrance-guard is that it interferes with the ventilation of the hive. I might say that at this same convention, Mr. R. L. Taylor said that he could manage very well without self-hivers. He used simply a queen-trap. If the apiary is visited once in three or four days, the colonies that have swarmed can be picked out by finding a queen and a bunch of bees in the trap of a colony that has swarmed. He then divides those that have swarmed.

R. F. Holtermann—A queen might be injured by a cold rain if left in the trap three or four days.

W. Z. Hutchinson—Mr. Taylor says that there is quite a little bunch of bees remaining with the queen, and that he has had no losses from this source.

Next came a long and exhaustive essay by Mr. Frank Benton, of Washington, D. C., on

Varieties of Bees and Their Characteristics.

It is now nearly 20 years since I called attention, through the apiarian periodicals, to the important work of Mr. Edward Cori, then a director of chancellory in Bohemia, in the introduction and testing of various foreign races of bees, some of them little known, and others entirely new. And shortly after the first mention of this work of his, I translated several lengthy articles written by him bearing on the subject. These may be found in the *Bee-Keepers' Magazine* of New York city, for 1876. Other notices from various foreign journals were given from time to time by me, and in 1878 I gave a review of the subject of foreign races of bees before the Michigan State Bee-Keepers' Association.

Again, in the autumn of 1879, I had the honor of presenting to the North American Bee-Keepers' Association assembled in Chicago, an extended notice of the remarkable race of bees native to the Island of Cyprus. A few months later my interest in the subject led me, in connection with Mr. D. A. Jones, an extensive and capable Canadian bee-master, to undertake a journey to the Old World for the purpose of investigating the various races of bees which had come into prominence, as well as to discover others still unknown, if such existed, and in case these new races seemed valuable, to import them to our own country.

To many of the older members of this society the facts are familiar, as recorded in numerous articles in the bee-papers, that we sailed in January, 1880, on this long journey, made visits among many of the prominent bee-keepers in various countries of Europe, initiated the work of queen-breeding in Cyprus, Syria, and Palestine, and also that Mr. Jones returned to America a few months after, bringing with him Cyprian, Syrian and Palestine bees, while I still remained in the Orient.

One of the conditions of the contract with Mr. Jones was that the qualities of these new races should be represented to the American public exactly as they seemed to be, and that unless, as far as could be discovered, a given race was more valuable than the bees we then possessed it should not be offered for sale. Mr. Jones had exclusive control of the sales in the United States and Canada. I answered such calls as came from the continent of Europe, and after Mr. Jones, left England on his return trip in June, 1880, those that came from the British Islands also.

Many of those present have also done me the honor of following me, through the published accounts, imperfect though they were, of the long journey to India and the perilous search in the jungles for the famous *Apis dorsata*—the Giant East India bees of which such mythical tales had come to us. And though it is true that the illness which was the immediate cause of my failure to get the bees here alive, resulted from an over-estimate of my powers of endurance, I am really more pleased at presenting for your inspection dead specimens of *Apis dorsata* than these respectable bees would likely have been over my demise had they compassed it.

Mr. Jones, who it will be remembered returned to America after spending about three months in the East, did not visit the Orient again, although he remained connected with the work. But when, at the close of 1882, I found myself obliged to leave the East, on account of the effect of the climate on my health, he severed his connection with the undertaking.

During the following years, with headquarters in Munich, Germany, most of the countries on the Mediterranean sea were visited, some of them repeatedly, and stays of a few weeks or months made. The races of bees native to each country were studied and experimented with in their own land, and in each instance queens were taken with me to other countries in order to test their

progeny in direct comparison with other races, and also to secure certain known crosses for experimental purposes.

Thus eleven years were passed in foreign lands during which I recall that once for a period of four years in succession I heard no word of my mother tongue spoken outside of my own family.

It is but just that I should mention that the constant sharer in this long exile and in these undertakings, their pleasures and hardships (generally too many of the latter), has been my devoted wife. She often took charge of an apiary and received and cared for the valuable queens from distant countries, introducing them and preparing and shipping them on long and difficult journeys. It was her skill in this direction which landed in fine condition the first queen-bee that ever made successfully, by mail, this long journey from Europe.

And since misapprehensions regarding the possible returns from such work have arisen, and have often been alluded to in print, it is quite proper to mention here that it is safe to say that one-half the effort and expenditures put into queen-rearing at home would have yielded a far better income, in fact; though I come back with more than a decade added to my years, and, I trust, correspondingly richer in experience, it is poorer in pocket and in health than when I sailed from my native land, and this even though the bee-keepers in many European countries extended to the undertaking a patronage hardly anticipated in the beginning. But as the work was not undertaken on my part with the expectation of money-making, I could only be disappointed in this direction, in so far as the returns were not equal to the expenses.

FRANK BENTON.

[Here is as far as Mr. Benton had his essay in manuscript. The description he gave *extempore*. I supposed it was all written, hence I took no notes, but Mr. E. R. Root, of *Gleanings*, did, and he has kindly sent me proof of what he took down, having first submitted said proofs to Mr. Benton. Here follows the correct version as approved by Mr. Benton.—W. Z. H.]

Although long, it was one of the most entertaining talks that we believe we ever listened to at any convention. Mr. Benton began his address by giving a description of the general characteristics of black bees; but as these bees are so well known, we will not reproduce his remarks here.

THE BEES OF ITALY.

Next he took up the Italians. These were introduced into the United States in 1860 by Mr. S. P. Parsons, acting for the Department of Agriculture, as the Government records showed. It was generally stated in the text-books that Italian bees were first introduced into the United States by Wagner and Colvin acting together, and Mahan independently. They were actually the first to land Italians on our shores, but not queens bred in Italy, nor was it from their importations that the country was stocked to any great extent with Italian bees. Their first consignments, which arrived alive, came from Germany in the fall of 1859, Mr. Mahan, to whom too little credit has been given in this connection, having charge of them. The Wagner and Colvin queens were all lost during the winter, which was near at hand when they arrived. Nor had the Mahan importation been multiplied before the arrival in May, 1860, of the consignment which Mr. Parsons had, in 1859, been commissioned by the United States Department of Agriculture to purchase in Italy. And it was chiefly from this importation that Langstroth, Cary, Quinby, and other skillful breeders multiplied the race in this country.

Then turning to the general characteristics and markings of the Italians, Mr. Benton gave a very fair description, which I also omit. Italians were, he said, to be found in their greatest purity in the region having Bergamo and Brescia on the north, Montua and Modena on the east, the Ligurian Appenines on the south, and Pavia and Milan on the west. He also found the bees in Genoa well-marked, likewise those in Leghorn, Florence, and other parts of Tuscany, and in Rome. Perhaps it may be interesting to note right here, that the Italians which we have been importing to this country for many years have been coming from the vicinity of Bologna, which is just to the southeast of the region first mentioned by Mr. Benton.

CARNIOLAN BEES.

Of these Mr. Benton had the most to say. They were dark in color, somewhat of a steel gray, but quite different from the black bees. As to size, they were a little larger than the Italians; were excellent honey-gatherers, sealed their honey white, good wax-producers, and collect little or no propolis. They

were very prolific, but not so much so as the Eastern races, and the gentlest bees in the world; in fact, in this respect, no other bees could be compared with them. During the whole four years that he worked with them in their native country, he wore no veil, and yet handled hundreds of colonies, even manipulating the combs of strong ones late into the night.

Carniolans could be readily shaken from the combs, and this feature made it possible to find the queens very readily by shaking all the bees out of the shallow brood-chambers such as were used and had been used for a century or more in Carniola. In fact, it is the way the natives usually find the queens. Carniolans could be shaken from their combs, and not fly up and resent it as Italians would sometimes do. They were not lacking in courage, but the loss of a queen affected them greatly.

At first Mr. Benton thought they were rather given to robbing; but later he found they were no worse than other bees. On account of their capping honey so white, and their gentleness, Mr. Benton felt that the Carniolans were the best bees for comb honey.

Referring to their demerits, he acknowledged that they were rather inclined to swarm; but this trait had been encouraged in them for centuries. The native bee-keepers in Carniola practice a method where excessive swarming seems desirable. Their inclination toward excessive swarming is simply a trait that has been bred into them; and Mr. Benton thought that the same trait could be bred out, or at least held in subjection here in America. It would be foolish for Americans to reject them solely on this ground; and while the Carniolans have many valuable traits, he did not think that they would entirely replace the Italians.

DALMATIAN BEES.

These bees were found on the east coast of the Adriatic sea. Their bodies are rather slender, and are shiny blue-black in color, with lightish fuzz. In qualities they are similar to Carniolans, being prolific, excellent honey-gatherers, and builders of very white combs, though not quite so gentle as the latter. It would be desirable, he thought, to introduce them into this country, and study and test them more thoroughly.

THE ATTIC, OR BEES OF HYMETTUS.

These bees were found in the plains of Attica—probably the same race of bees that gathered honey for the gods. They no doubt now gathered the same honey, of the same quality that they were reputed to have done in ancient times; but as the native bee-keepers put the honey in goat-skins, Mr. Benton did not think he would like to be one of the "gods." The Hymettus bees look very much like Carniolans, and their movements are the same; but they are very cross, notwithstanding they are good honey-gatherers. They used more propolis, and were great breeders.

Mr. Benton here related an incident of a case where he had the Attic, or bees of Hymettus, in an apiary alongside of Carniolans. He had been handling Carniolans, and by mistake opened a hive of the Hymettus bees, treating them as he would Carniolans. The result was, that they poured out in such numbers that he was driven precipitately from the apiary. These and certain other bad qualities would make them rather undesirable for importation to this country.

CYPRIAN BEES.

These were reared on the Island of Cyprus, and were rather peculiar on account of their isolation. They were kept in mud cylinder hives; movements were very quick—so quick, indeed, that they might flit on one's nose. As to their honey-gathering qualities, they exceed all other known races; will often gather honey when others are doing nothing. The cappings of their comb honey have a rather watery appearance, and therefore they were not suited for *comb* honey. They were prolific—more so than the Carniolans.

Right at this point Mr. Benton wished to emphasize the fact that it was not a bad thing to have bees extra prolific, because an intelligent bee-keeper—one who knows how—could always turn this quality to good account.

As to the temper of Cyprians, they feared nothing. Great quantities of smoke would not subdue them; in fact, the more they were smoked, the worse they became. They were very sensitive to light; and hence on opening a hive it must be done gradually. By working cautiously, using, of course, a veil, and a slight amount of smoke, he could get along with them very well. They winter better than the Syrians and Palestines.

For *extracted* honey, he believed they were the best bees in the world. If honey were to be extracted it would make no difference whether the cappings

were water-soaked or otherwise. As the swarming disposition has been bred into the Carniolans, so vindictiveness has been bred into the Cyprians on account of their natural environments. Wasps were their natural enemies on the Island of Cyprus, and Mr. Benton had known them to pounce upon the weakest of the colonies, and so decimate their number as to end finally in their utter anihilation. Mr. Benton regretted that the Cyprians were not now to be had in this country, and thought they had been discarded prematurely. He believed that they should be kept in their purity or crossed with Carniolans, as their crosses with blacks were evidently undesirable.

TUNISIANS, OR, AS SOME HAVE CALLED THEM, PUNICS.

These, Mr. Benton said, were found from Tripoli, Africa, westward. He had reason for thinking they were the same bees that were to be found on the island of Minorca. They had been originally imported to France, and all that region; and on the Island of Minorca they had been isolated. The Tunisians resembled most our black bees. They were much darker, however, and smaller than these. They fly quick, are excellent honey-gatherers, active, good comb builders, and cap their honey fairly well; but they were the worst gatherers of propolis of any bees known, and would sometimes close up their entrances to narrow passage-ways with propolis, leaving little pillars between the holes. Indeed, the amount of propolis they will gather is so much that they are unsuited for comb honey, because they daub the cappings with it so much. They were vindictive, and probably for the same reason that Cyprians are so; namely, on account of their inveterate enemies—the wasps.

The Tunisians, when aroused, are ten times worse than Cyprians—worse even than Syrians and Palestines, and besides stinging they bite. Mr. Benton thought the introduction of them into this country was detrimental to the best interests of bee-keeping. As Mr. Benton has thoroughly studied their habits in their native clime, taken them from Tunis with him and bred them in other countries for several years, and has also sent imported queens of this race to apiarists in various European and Asiatic countries, these statements may be taken with some degree of authority.

APIS FLOREA.

These bees—the smallest of the genus *Apis*—build in the open air, their single comb being attached to the limbs of trees. There can be nothing expected from them, as they are so small, and are quite disposed to migrate.

APIS INDICA.

These were very small and pretty five-banded bees; and as they could be kept in hives, he thought they might be worthy of a trial. They were so small they might be well adapted to the small flora of our country, without detriment to our other bees, since they would gather honey from some blossoms which the ordinary-sized bees do not.

APIS DORSATA.

This was a very large bee; general color smoky black, abdomen having three deep orange bands; wings blue-black, and shone in the sunlight; workers were about the size of our queen-bees. Their movements were very different from that of the ordinary bees, and, if disturbed, they whiz from the combs like hornets. They were excellent gatherers of honey, and of good quality, and their wax was produced in such quantities as to make an important article of merchandise. The combs, usually only one, were about five feet long, hang from the limbs of trees. If, as sometimes happens when they build in rock cavities, they have more than one comb, the secondary combs are attached parallel to the central or main comb, one on either side, and not as commonly illustrated in one of the bee-papers, showing several combs attached to one limb. The worker-cells of the *Apis dorsata* were about the size of the drone-cells of our bees, and the drones of *Apis dorsata* were reared in the same cells as the workers. They looked like drones, having a blunt appearance, not differing greatly from drones of *Apis mellifica* from our drones.

The vindictive power of these bees had been greatly exaggerated. They were not particularly cross, and could be handled and kept in hives. Mr. Benton secured some of the bees and found they could be successfully kept in hives. Circumstances were such (a serious illness from exposure having befallen him) that he could not make the observation of their general characteristics that he desired, but he found that they were slow to repair combs that were broken. So awkward were they in stinging that by a quick brushing movement the sting could easily be averted, and even when they were successful in accomplishing their object, the wound was not as painful as from other bees.

Mr. Benton thought it desirable to import and test them here, for, though it is quite possible they might not prove of *direct* value in domestication, and therefore private enterprise should hardly venture upon the work of getting them, the possibility of beneficial results to the apiarian and agricultural interests of the country through their introduction, make the work something which he thought the government might very properly undertake.

A. I. Root—Wherever there is Syrian blood, there is trouble in handling the bees. I know that smoke often makes them worse. There are apiaries in California where it is understood that no smoke is to be used.

R. F. Holtermann—I think that what Mr. Benton says is correct. But this trait of the Syrians of defending themselves is so great, and passes on from one generation to another—is so hard to eradicate—that it ought to be avoided.

Frank Benton—*Apis dorsata* is not looked upon as valuable for a cross. What would be the result of their introduction, I cannot say. Their sting is not so severe as that of the ordinary bee. They are also more clumsy. They can be brushed off before they sting, if the bee-keeper is just a little spry about it.

R. F. Holtermann—Do the drones fly at a different time of the day from other drones?

Frank Benton—I do not know. I know that they fly just at dusk, when the workers are still, but they may fly at other times.

Prof. Riley—While the matter is problematical, I think that *Apis dorsata* would not cross with our ordinary honey-bees.

(Continued next week.)

Mr. Aaron Coppin, of Wenona, Ills., is on the programme for an essay on the subject of "Bees on the Farm," to be given before the Marshall County Farmers' Institute, which meets in Armory Hall, at Wenona, on Feb. 2nd and 3rd. Wish we could be there and hear that essay. Perhaps Mr. C. will send it to us for publication in the BEE JOURNAL.

Great Premium on page 133!

Section Holders—Wide Frames and How to Use Them.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

A correspondent writes me thus: "I wish to change my surplus arrangement next season to some extent, and as I wish to do it this winter, while I have leisure, will you kindly tell me something of what you prefer, and how you make and use it? Please reply through the AMERICAN BEE JOURNAL, as I am taking that excellent paper."

After trying nearly all of the section-cases advertised, I have come to the conclusion that wide frames, holding but one tier of sections, give the best results with the least work, trouble and annoyance, taking all things into consideration.

Wide frames, two or more tier of sections high, to be used in the upper story of a two story hive, do not work at all satisfactory with me, so I have discarded them entirely for that purpose. However, I find them very handy when hiving large swarms, where such frames of sections are placed at each side of the hive to take the place of the number of frames which we do not wish to use when working on the contraction plan, using these instead of the dummies which are usually used in contracting hives.

These wide frames are hung in the hive with separators toward the combs or frames of foundation, and it is a rare instance that I get either brood or pollen in them. These wide frames are left in the hive for 24 days, or until they are filled, when they are taken out to give place for empty combs, which are used to fill out the hive so there will be stores enough for winter, thus securing the lighter colored honey for market, while the bees winter on darker honey gathered later on, which is just as good for the bees, but not as salable to customers.

If all are not filled when taken out, that portion of them are placed on top, in the one-tier wide frames which are used there, and left to be finished. This makes some work, but as such are only used on very large colonies, but little of this changing of sections is required, as they are generally completed at the end of 24 days, or before, so that it is no more work to handle wide frames of sections than it would be dummies.

Some one may ask, How about tiering up? I do not like tiering-up, and never did, though using it in the past to considerable extent, for by this plan I am liable to have too many partly-finished sections, especially if the season be a little poorer than we expected. However, the wide frames, as I use them, can very easily be made to tier up. A brief description of what I prefer is as follows:

Make wide frames to accommodate the number of sections you desire, consistent with the top of the hive and size of section. I use four sections in a frame. Next, make two boards of the same length and height of the wide frames, cleating them to prevent warping. Drive a nail into each end of one of these boards, letting it project one-fourth inch, and a large, flat-headed tack into each end of the other, driving it in so that by winding a string around once or twice it will hold the string as in a vise.

Now procure some coil wire springs, about three-sixteenths of an inch in diameter, and tie a short string by making a slip-knot, or otherwise, to the spring and to the nail driven in the first little board, and then tie the longer string to the other end of the spring. I use one 20 inches long. Put the wide frames on the hive, two, three, five, seven or ten, as you wish, set one of the little boards up on each side, draw the springs at each end until a strong tension is made, and wind strings around between head of tack and board to fasten, when you have an arrangement that you can enlarge or contract, invert or tier up, as you please, and one which I consider superior to anything yet brought before the public in the shape of a surplus arrangement for comb honey. For practical work I use it as follows:

When the honey season opens, I put from two to five wide frames on each colony, according to size, being careful not to give too much room at first, so as to discourage the bees on the start. In a week or more, add two more wide frames, one on each side, and so on until the full capacity of the hive is reached, according to the room on the top, always putting them on the outside. As I use chaff hives largely, this gives room of about 60 pounds capacity, which is all that is required by the largest colonies, while many colonies do not require more than from 30 to 50 pounds capacity, when worked on this "lateral" plan, as some term it.

As soon as the first sections are completed, they are taken off, the remaining wide frames crowded to the center, and empty sections put on the outside as before. As the season draws toward a close, calculations are made so as to get all as nearly completed as possible, and to accomplish this, no empty sections are put on to take the place of the full ones taken off, so that at the end of the season the number is about the same as it was at the beginning, nearly all of which are generally finished. Should any remain unfinished, the honey is extracted from the combs, the sections given to the bees to lick dry of honey, when they are stored away as "bait sections" for the next year. The few that are not filled, I consider of great value when used in this way, for by so doing the bees are started to work in the sections much earlier in the season than they otherwise would be.

Borodino, N. Y.

Canadians Blow Up the Sugar-Honey Magazine.

Written for the American Bee Journal

BY WM. M'EVOY.

At the annual meeting of the Ontario Bee-Keepers' Association, held in Walkerton, a committee was appointed, composed of Messrs. S. T. Pettit, of Belmont, James Frith, of Princeton, and J. K. Darling, of Almont, to go to Ottawa and get an Act passed against the manufacture, importation or sale of "sugar comb honey."

Mr. Pettit, the chairman of the committee, has the Bill prepared, making it a very serious business for any person to make, buy or sell sugar comb honey. The fines are to be $400, which I believe are none too much when we consider how easy it would be to ruin the real honey producers' business by such work. If the feeding of sugar for the production of comb honey got started, it would end in putting the feeders on the crates of sections, and then feeding the very cheapest grades of sugars.

It was too bad to ever start such a subject in any periodical, to advise bee-keepers to feed sugar for such a fraudulent purpose, because it would be nothing but fraud to sell such for honey. I do not mean to say that these men that pushed the sugar comb honey so to the front would even try to push anything that they did not believe to be strictly honest; these men that gave that advice did it with the very best of intentions to help bee-keepers in poor seasons, believing that bees make honey out of sugar, which I positively declare they cannot.

Woodburn, Ont., Jan. 16, 1893.

[We are glad that our Canadian friends are moving in this matter. Let every bee-keeper, as well as all bee-conventions, condemn the very suggestion of such a thing as feeding sugar for the production of honey, whether comb or extracted.

Nothing, it seems to us, could more completely and speedily wipe out the business of honest honey production, than sugar-honey making. Because those who proposed the scheme were sincere in their desire to aid bee-keepers, it does not lessen the stupendous damage bound to result from what has been so unwisely published and advised upon the subject. We have heard of a man who couldn't open his mouth without putting his foot into it; in this case it seems that the champions of the sugar-honey scheme, opened their mouths and then put in *both feet*. It will be a long time before they get over the effects of that mouthful!

You can count on the old AMERICAN BEE JOURNAL as dead against all such schemes, every day in the week.—ED.]

A Good Reason Why Bees Don't Pay Sometimes.

Written for the American Bee Journal

BY CHARLES E. FALKNER.

The past season was a total failure as regards surplus honey. From 34 colonies I obtained no surplus honey to speak of. The spring of the year was very wet, and all during fruit-bloom and up until white clover commenced to bloom; so much so that the bees scarcely made a living.

White clover and basswood furnished a sufficient nectar for the bees to fill their brood-chambers, providing they did not swarm. I kept mine from swarming, and consequently they went into winter quarters in splendid condition.

I always see that my bees have plenty of stores to take them through the winter safely before I ever attempt to take a single pound of their faithful labor, which, I think, is right and just. I know of plenty of so-called bee-keepers that in the fall of the year take the last pound of surplus, and often rob the brood-chamber by extracting the well-filled outside combs, and never attempt to feed the bees; and those are the ones who expect to receive the largest returns from their bees the coming summer! If they fail, they are ready to say that it don't pay everybody to bother with bees at all. Well, I don't wonder much why it don't pay in their haphazard ways of management; but I do wonder why they are so hasty in saying that it don't pay anybody to keep bees at all, just because they failed in their poor way of doing business.

I don't wish to be understood that I think it would pay a farmer to adopt farming and take up bee-keeping entirely, nor would I advise anybody to do so, for the reason that past experience has taught us that we cannot always depend upon a honey-flow each year in succession; neither would a farmer dare to depend upon raising wheat or corn, and nothing else on the farm, as I fear he would be "left" fully as often, and if not more so, then the bee-keeper would.

Now I would say to those that think it doesn't pay to bother with bees, to purchase one or two good, strong colonies of Italians, and send $1.00 for the AMERCAN BEE JOURNAL, and by the time they have 20 or 25 good colonies of bees, they will have a pretty good idea of the business, and will more than doubly be repaid for their time and capital invested. They will also dismiss the false idea that it doesn't pay anybody to keep bees at all.

Twenty or 25 colonies can be successfully managed by a man who is farming but 30 or 40 acres of land, and they will pay him well for the little extra bother.

TO RID HIVES OF ANTS.

I noticed on page 828 that Mr. Kauffman, of Brickersville, Pa., says he is bothered with little ants around the bee-

hives, and that he has tried everything given in the BEE JOURNAL, and it did not destroy them. I never try to destroy them; I simply keep them away from my bee-hives by taking a good bunch of tansy, and mash or bruise it by rubbing it on the outside of the hives and the inside of the cover, and scatter some of it on the cloth over the bees. Be sure to try it the coming summer, and report in the BEE JOURNAL.

Pioneer, Ohio.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Gathering Pollen.

Many colonies of my bees are ventilating, denoting strength. Considerable pollen is gathered now. The weather permitting, I expect early swarms.

M. H. MENDLESON.

Ventura, Calif., Jan. 2, 1893.

Reminded of the Winter of 1880-81.

The weather for the past few days are reminders of the winter of 1880-81—20 to 22° below zero. That winter the loss of bees was great, and if the winter continues for any length of time as it has been, I fear there will be a serious loss this winter. But we will hope for the best.

H. H. BROWN.

Light Street, Pa., Jan. 17, 1893.

Winter Packing-Cases—Top-Bars.

In Mr. Green's article on page 22, he says there are pronounced advantages in making a packing-case large enough to hold several colonies, and that his new packing-cases hold four. Now if they held eight, having two entrances at each side and each end, there would be still greater advantage, as there would be more economy of heat, and only a trifle over one-half more labor, packing material, and lumber required. The roof could be made of half-inch cedar or pine lumber, 10 or 12 inches wide, and nailed to three hardwood rafters for each side of the roof, one inch square, with 2½ inch wire nails well clinched. The two sides of the roof may be hinged at the ridge with three strap hinges, one at the center, and the other two near the ends, just over the rafters, and nailed on with three-inch wire nails instead of screws.

There is another point I should like to make in regard to making a bee-space at the ends of top-bars, which can be done by rabbetting out ⅞-inch instead of ⅝, and having the sheet-iron rest raised ½-inch above the shoulder, thus leaving a bee-space of half an inch all around the projecting end of the top-bar, and so avoiding all propolization during the use of the hive.

R. F. WHITESIDE.

Little Britain, Ont., Jan. 13, 1893.

The Season of 1892—Wintering.

I put 73 colonies of bees into the cellar in the fall af 1891. They were light in stores, but all wintered well except 2 colonies. I put them out on April 5, 1892. It was fine weather, but in a few days it turned cold and windy, and it rained, and rained, and the east wind blew ice cold for 31 days. I could not look at my bees all of this time, as it was so cold and windy, and when the first warm day came, that was on Sunday, they commenced swarming out about 9 o'clock in the morning. I had fed all of these colonies well, and they all had plenty to eat; all had brood and good queens. I put some of them back six times into the one hive, and the first thing I would know they would be out on the wing. So they swarmed out until I had 36 colonies left out of 73. I then gave the 36 the very best of care, and got 1,200 pounds of comb honey, all nice and white. I now have 58 colonies.

My neighbor had 11 colonies, and he came to me and wanted to know if I would help him kill his bees, and take my extractor and extract the honey. I told him I thought it was wicked to kill the bees that way. I offered to buy his bees, and he said all right, he would sleep over it. They were in Root's ten-frame hives. I weighed some of them, and they weighed from 66 to 70 pounds each. I got them for $3.00 per colony, and I let my neighbor have 2 colonies out of the 11 I bought. The one I bought

the bees of got only 60 pounds of honey in sections. He used no foundation in the sections. He has 13 acres in small fruit, and won't keep bees. I have 68 colonies in my cellar this winter in the very best condition, and they are wintering finely. I have lost only 2 colonies in cellar wintering for 6 years. I think I have one of the very best plans for Minnesota wintering.

C. A. GOODELL.

Mankato, Minn., Jan. 10, 1893.

Bees Wintering Nicely.

My 27 colonies of bees are wintering nicely. The honey crop was very light last year—about 300 pounds from 22 colonies. I took out 6 pounds to-day, of tolerably fair honey. The prospects are good for next season.

JOHN M. RYAN.

Apple Grove, Ala., Jan. 6, 1893.

Good Cure for the Blues, Etc.

I wonder if the most of the readers of the AMERICAN BEE JOURNAL have learned by personal experience that these words by our Lord Jesus were true, that it is "more blessed to give than to receive." It is true, I am sure it is true. I know from experience. I don't believe there is a better cure for the blues than to go to work with all one's might to help some one more unfortunate than ourselves.

If we are too poor to have much money to give, there are thousands of other ways of doing good. Jesus said: "Gather up the fragments, that nothing be lost." In almost every home there is clothing that we can spare as well as not, and if mended and laid away in a box kept for that purpose, it would grow beautifully full before the year closed. There are thousands of such homes where such clothing would make happy hearts.

Some people say, "Oh! I would not hurt people's feelings by offering them such clothes!" I would not give to such people as are too proud to receive them. I can tell you where you can send such clothes, and they will be very thankfully received. It is to a Christian Indian Orphanage, that has been recently established at Swenndale, near Vinita, Indian Territory, under the care of Evangelist Wolf. I could mention many other places, did space permit.

Bees in this vicinity are wintering well, I think; especially those in the cellar. The bees out-of-doors have not had a good flight for about eight weeks, but the weather has not, until now, been severe on them—not much cold winds thus far this winter, which is, I think, harder on bees out-of-doors than quite cold weather. White clover, also, seems all right.

I wish to thank the editor for the honor conferred upon me by placing at the head of the editorials, on page 719 (1892), the poetry ending with letters, copied from *Gleanings*. Honesty suggests to me that I should write and inform the readers that it was not my own composition. I found the lines in "The Yankton Student," as selected poetry; no name given. I thought it applicable to our beloved pursuit, and so I quoted them.

MRS. L. C. AXTELL.

Roseville, Ills., Dec. 14, 1893.

Severe Winter in New York.

We have had the most severe winter here since the 23rd day of December, that I ever remember at this time of the year. On the day alluded to, the wind sprung up from the northwest, whirling snow filled the air, roads were blockaded, and the mercury sank to below zero, so each one of us had our Merry Christmas around our own fires, and the many Christmas trees, houses, boats, etc., were nearly or quite failures.

On New Year's day it thawed just a little bit near night, but the next day found us in the midst of another zero wave, and the mercury has scarcely been above since, staying from 2° above to 6° below, with high winds most of the time. There is about 14 inches of snow on a level in the center of large pieces of woodland where the wind cannot reach, but elsewhere the lots are bare, with the snow-drifts anywhere from 2 to 10 feet deep behind fences, in the roads, etc. I have been four days shoveling on the roads, and now they are hardly passable, in many places.

All of my bees are in the cellar except 7 colonies, I was in there two weeks ago, and those in it were very nice, so I have no fears for them.

G. M. DOOLITTLE.

Borodino, N. Y., Jan. 18, 1893.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

56 FIFTH AVENUE, CHICAGO, ILLS.

TO CORRESPONDENTS.

The Bee Journal is sent to subscribers until an order is received by the publishers for its discontinuance, and all arrearages are paid.

A Sample Copy of the BEE JOURNAL will be sent FREE upon application.

How to Send Money.—Remit by Express, Post-Office Money Order, or Bank Draft on New York or Chicago. If none of these can be had, Register your Letter, affixing Stamps both for postage and registry, and take a receipt for it. Money sent thus, IS AT OUR RISK; otherwise it is not. Do not send Checks on Local Banks—we have to pay 25 cents each, to get them cashed.

Never Send Silver in letters. It will wear holes in the envelope, or may be stolen.

Make all Money Orders Payable at Chicago, Ill.—not at any sub-station of Chicago.

Postage Stamps of any denomination may be sent for any fraction of a dollar; or where Money Orders cannot be obtained, stamps for any amount may be sent.

Subscription Credits.—The receipt for money sent us will be given on the address-label of every paper. The subscription is paid to the END OF THE MONTH indicated.

Do not Write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Emerson Binders, made especially for the AMERICAN BEE JOURNAL, are convenient for preserving each weekly Number, as fast as received. They will be sent, post-paid, for 50 cts. each. They cannot be sent by mail to Canada.

Lost Numbers.—We carefully mail the BEE JOURNAL to every subscriber, but should any be lost in the mails, we will replace them if notified before all the edition is exhausted.

Always State the Post-Office to which your paper is addressed, when writing to us.

Special Notices.

The Date on the wrapper-label of this paper indicates the *end* of the month to which you have paid for the JOURNAL. If that is past, please send us one dollar to pay for another year. This shows that Mr. Porter has paid his subscription up to the *end* of December, 1893:

Wallace Porter Dec93
Suffield, Portage co, Ohio

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

Feb. 7, 8.—California, at Los Angeles.
John H. Martin, Sec., Redlands, Calif.

April 5, 6.—Texas State, at Greenville, Tex.
A. H. Jones, Sec., Golden, Tex.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon ..Dowagiac, Mich.
SEC'Y AND MANAGER—T. G. Newman, Chicago.

Webster's Pocket Dictionary we offer as a premium for sending *only one new* subscriber with $1.00. It is a splendid Dictionary—and just right for a pocket.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given n the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club.*
The American Bee Journal.....	$1 00....	
and Gleanings in Bee-Culture....	2 00....	1 75
Bee-Keepers' Review.....	2 00....	1 75
The Apiculturist.....	1 75....	1 65
Bee-Keepers' Guide.....	1 75....	1 65
American Bee-Keeper.....	1 50....	1 40
Canadian Bee Journal.....	2 00 ...	1 75
Nebraska Bee-Keeper.....	1 50....	1 35
The 8 above-named papers	6 25....	5 25
and Langstroth Revised (Dadant)	2 40....	2 25
Cook's Manual	2 00....	1 75
Doolittle on Queen-Rearing.	2 00....	1 65
Bees and Honey (Newman)..	2 00....	1 65
Advanced Bee-Culture.....	1 50....	1 35
Dzierzon's Bee-Book (cloth).	2 25....	2 00
Root's A B C of Bee-Culture	2 25....	2 10
A Year Among the Bees	1 50....	1 35
Convention Hand-Book.....	1 25....	1 15
Illustrated Home Journal ..	1 50....	1 35

Do not send to us for sample copies of any other papers. Send for such to the publishers of the papers you want.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, January 28th, 1892 :

CHICAGO, ILL.—There are occasional sales of best grades of comb honey, but the retailers are not yet sold out on supply laid in before the holidays. Prices are a little easier, especially on that which will not grade "fancy"—such brings 17@18c., and other grades 12@16c. Extracted, 6@9c., as to quality.
Beeswax—22@25c. R. A. B. & Co.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

CINCINNATI, OHIO.—Demand from manufacturers, for extracted honey, was slow for the last few weeks, while there was, and is still, a fair demand from consumers for family use. There is no choice comb honey in the market. Best white comb brings 14@16c. Extracted honey brings 6@8c.
Beeswax—Demand fair, at 23@25c. for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Comb honey is selling slow, very much slower than we like to have it, and it is our experience that when we start honey in at a high price, it sells hard right through the season. We quote our market nominally at 17@18c. for best white honey, 1-lb. combs, Extracted, 8@9c.
Beeswax—None on hand. B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted. 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

ALBANY, N. Y.—Our honey market is slow on account of cold weather, but our stock was never so light as now. We have less than 50 cases of honey on hand, and only one barrel of extracted; when usually we have 1,000 cases in stock. For honey not granulated in comb, we quote: White (small), 15@18c.; mixed 13@14c.; dark, 10@11c. Large comb and double glass sell for 1 to 2c. less per lb. Extracted, white, 8½@9c.; amber, 7¼@8c.; buckwheat, 7@7¼c. H. R. W.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.
J. A. LAMON, 44 & 46 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMONS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Doolittle's Queen-Rearing book should be in the library of every bee-keeper; and in the way we offer to to give it, there is no reason now why every one may not possess a copy of it. Send us one new subscriber for a year, and we will mail the book to you bound in paper, as a present.

"**Bees and Honey**"—page 133.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

WANTED—A male or female who understands Bees, to start a new apiary. State experience and wages desired.
J. B. Summers, Berthoud, Larimer Co., Colo.

WANTED—A situation in an Apiary or in a Hive Manufactory, by a practical apiarist. 12 years' experience.
Address, G. C. R., Box 707,
5A1t Austin, Minn,

WANTED—Every Queen Dealer in the United States to send for our prices on 5-Banded Italian Queens. Every one warranted. Address, C. B. BANKSTON,
5A1t Chrisman, Tex.

ESTABLISHED IN 1861

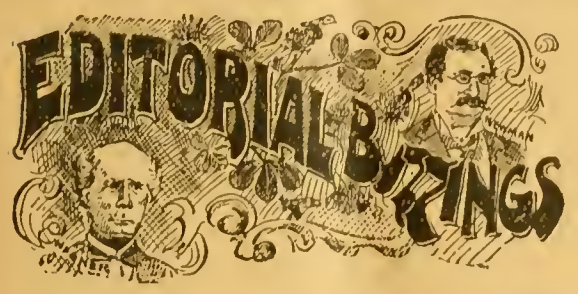
THE AMERICAN

OLDEST BEE-PAPER IN AMERICA

BEE JOURNAL

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., FEBRUARY 9, 1893. NO. 6.



"**Loveliest** of lovely things are they,
On earth that soonest pass away.
The rose that lives its little hour
Is prized beyond the sculptured flower."

Gathering Pollen.—Mrs. Jennie Atchley, of Greenville, Hunt Co., Tex., wrote us thus on Feb. 1st:

Bees began to gather the first natural pollen yesterday, and they just rolled it in this morning.

Here in Chicago, this morning (Feb. 4th) it is 10° below zero. Quite a variety of weather we have in these United States!

A Bad Mess.—When papers other than bee-papers attempt to say anything about bees they generally make a mess of it. A pseudo-religious paper, attempting a comparison, says: "The fact that the two larvæ, the drone and worker-bee, placed together in the queen-cell, will so blend as to develop an impregnated queen-bee," etc. There's advanced science for you! And the religion of the paper is a good deal worse than its bee-lore.

The Bee-Keepers' Union.—We have received from the General Manager of the National Bee-Keepers' Union, the following

OFFICIAL STATEMENT.

CHICAGO, Ills., Feb. 3, 1893.

To the Members of the National Bee-Keepers' Union:

I hereby submit the following statement of Votes received up the time of closing the polls, on Feb. 1, 1893: There were 348 votes cast.

For President—Hon. R. L. Taylor, 141; James Heddon, 136; scattering, 50; blank, 21.

For Vice-Presidents—C. C. Miller, 272; G. M. Doolittle, 270; A. I. Root, 265; A. J. Cook, 242; G. W. Demaree, 228; scattering, 248.

For General Manager, Secretary and Treasurer—Thomas G. Newman, 321; scattering, 3; blank, 24.

For Amended Constitution — 289; against, 28; blank, 31.

For Salary of Manager—20 per cent., 342; scattering, 6. Back salary voted, the years being added together, amount to 566. This, divided by the number of votes, lacks a little of being twice—carrying for one year, and leaving votes for 218 over. It will therefore commence with Jan. 1, 1892.

THOMAS G. NEWMAN,
General Manager.

In Queen-Breeding, it is wisely said, we should aim to rear prolific queens. This, indeed, is of prime importance. If we would have strong colonies, we must have queens that will commence to lay early, continue to lay abundantly, and keep on in the way of well doing until in the autumn.

Glucosing Dark Honeys.—It seems that this latter part of the marvellous nineteenth century is to be made still more marvellous by way of great and consternating surprises in the field of honey-production.

Not content with the death-threatening invention of the Hasty sugar-honey plan, James Heddon—once the proud leader in the production of honest honey—now steps almost to the low level of honey adulterators, by *defending* the practice of mixing glucose with dark honeys in order to effect its sale! This indeed would be hard to believe, were it not for the published report of his unfortunate utterances at the late meeting of the Michigan State Bee-Keepers' Association, which are found in the BEE JOURNAL for Jan. 5th.

If there is one thing this editor regrets since taking hold of the helm of the old AMERICAN BEE JOURNAL, it is that he was so almost criminally careless as to publish the parts of that Michigan convention report referring to the "Production of Sugar-Honey" and "Adulteration of Honey." We trust that we may be forgiven for having published it, and we certainly shall take better heed in the future, that no more such damaging stuff shall find a place in these columns. We are perfectly willing to let sensational publishers ride their hobbies, but the "old reliable" will hereafter *try* to avoid the quick-sand route.

Gleanings in Bee-Culture for Jan. 15th has such a good editorial on this very subject of glucosing dark honeys, that we feel we cannot do better, if as well, than to republish it entire. Here it is:

By the report of the proceedings of the Michigan State Bee-Keepers' Association, Mr. Heddon offers quite a lengthy argument in defense of adulterating, saying that it helps the sale of the poor dark honeys, because they will stand a large quantity of glucose. He says truthfully, that "there is no trouble about enforcing the law against murder, because people dislike to be murdered;" but when he says that enforcing laws against adulteration is impracticable because the public care very little about the matter, he is surely mistaken. The public does care.

Again, he says broadly, "I think the adulteration of honey has never injured bee-keeping; that it has, rather, been a benefit." And, again, quoting, "If we are going to fight adulteration, let us decide *why* we fight it. If it does not injure us, then why fight it?" And, once more, "All this talk about adulteration is the height of folly." We regret exceedingly that any one in our ranks should take such grounds as these; and we are sorry that even Prof. Cook should go so far as to say that, *if* the addition of glucose "to some grades of honey really improves them and aids in their sale, I have said my last word against adulteration."

Replying to Mr. Heddon, we will say that we know positively that the adulteration of honey by glucose has injured the bee-keeping interests, else why is it, in this year of great scarcity of honey, the extracted article fails to go up in price? In fact, it rules just about the same as it does in years of plenty. There was a time, and not more than three or four years ago, when very little honey was adulterated; but now things are changed; and if the continual *harping* on the subject is bad, that *silence* which lets the evil go on unrestrained and unchecked is *tenfold* worse. If circumstances were only such that we dared reveal some things that we know—well, we wont make any threats.

Referring to the quotation fron Prof. Cook, does he not see what a fearful flood of fraud and adulteration the admission of his argument would bring upon the country? Does he suppose for a moment that adulterators are going to stop at dark grades of honey and glucose in order to give the dear people something better than real floral honey? A little stream of water over the edge of Conemaugh dam "improved," perhaps, the water below; but it did more than that; it let loose death and destruction in its wake.

Now, it is possible that neither of the gentlemen above named have been correctly reported; but as Mr. Hutchinson acted as reporter, and is unusually careful and accurate, we presume the quotations are not far from correct. To have such "heresies" advanced by the president of the Union, now on the very eve of starting a well-organized effort to suppress adulteration of honey, is too bad. If bee-keepers should *not* be unanimous in this fight, if some of them should propose sugar comb honey, and others coun-

tenance adding glucose to dark honeys, where would we be coming to? Verily, the foundations of the bee-keeping industry would be threatened. Such a state of affairs must not come, and will not, because we believe that neither Mr. Heddon nor Prof. Cook would be willing to hazard the industry, or even run the risk of doing so. Surely Prof. Cook and Mr. Heddon will reconsider.

The suggestion and attempted defense of sugar-honey production was bad enough, but this championing of the criminal work of adulteration is *infinitely worse!* Indeed may it be asked, "Where are we at?" If such things continue, reputable bee-keeping will be *at* the door of Destruction. Such wild assertions as are enclosed with quotation marks in the foregoing paragraphs from *Gleanings*, are the rankest kind of heresies, and that such should be advanced by those prominent in the councils of bee-keepers themselves, is the most stupendous outrage of this apiarian age.

If there are any persons on the fair face of this earth to-day, who should make the most humble apologies, and earnestly beg the pardon and forgiveness of honest honey-producers all over the world, it is those who have so unwisely, so unfortunately—yes, so disastrously *defended* the adulteration of honey.

The question is, Will they be manly enough to make the *amende honorable?*

Bee-Keepers—To Work!—Mr. Jas. A. Stone, Secretary of the Illinois State Bee-Keepers' Association, wrote us thus on Jan. 25, 1893:

The Illinois State Bee-Keepers' Association Legislative Committee have introduced (in connection with the State Horticultural and State Dairymen's Association) a Bill in the Senate, and also in the House of the 38th General Assembly; for an appropriation to enable them to make a competitive exhibit at the World's Columbian Exposition.

This week there will be presented by the Legislative Committee (Hon. J. M. Hambaugh, S. N. Black, and J. A. Stone) of the Illinois Bee-Keepers' Association, Bills to prevent the spraying of fruit trees, etc., while in bloom; for an appropriation to publish a report; and one to compel the adulterators of honey to label their manufactured articles with the true name of their components (whether sugar, glucose, or other sweets not gathered from the flowers), with the names of manufacturers.

Let every man or woman interested in the keeping of bees, who can influence their representatives to favor these "Bills," work upon them by letting them know of the importance of the industry of bee-keeping in this broad State of *ours;* and that, no matter how much our interest is extended, it does not take the acreage from some other product, as would that of corn, wheat or oats, etc., wherein the increase of one results in the diminishing of the others'; but on the contrary, the increase of bees assists the horticulturist and farmer, in causing their products of fruits and seeds to be increased.

We wish to say further to bee-keepers, that nothing helps more before the Legislature than a large list of members to the State Bee-Keepers' Association.

JAS. A. STONE, *Sec.*

Bradfordton, Ills.

These are indeed important matters, and we trust that every bee-keeper in the State of Illinois will at once comply with the urgent request of Secretary Stone. He and the other members of the bee-committee are doing their utmost to aid the pursuit of bee-keeping, and they should have the hearty support of every one at all interested in the industry. Let all encourage them in their good work by helping them to be successful in their efforts.

Literary Chicago.—An article that will be read with great interest in every literary center in the East, and in every refined circle in the East and West, is William Morton Payne's article, "Literary Chicago," which opens the *New England Magazine* for February. The article is well illustrated, and contains portraits of Francis F. Browne, Dr. Paul Carus, Gen. Alexander C. McClurg, Horatio N. Powers, Benjamin F. Taylor, Eugene Field, Harriet Monroe, Blanche Fearing, George P. Upton, Dr. J. W. Foster, Elwyn A. Barron, Joseph Kirkland, Dr. William F. Poole, and George Howland.

Something Very Funny.—The AMERICAN BEE JOURNAL does not claim to be a comic paper, but here is something so very funny, taken from the *American Farmer*, and signed "J. W. Tefft," that we cannot forbear giving it to our readers:

Bee-keeping knowledge must be gained by ourselves. He who tries to solve bee-problems through the bee-trade journals will find that it takes a little longer than a lifetime. There are eight bee-papers published, and all of them are filled with literature upon drone-traps, bee-escapes, Hoffman frames, clipped queens, and a host of worthless things had on sale which the bee-keeper can have as a premium if he will only subscribe for their paper.

Isn't it just too funny for anything that bee-papers are filled with things that bee-keepers write about and really want to know all about? And isn't it a side-splitting joke that bee-keepers will continue to subscribe for such worthless things, from which they can learn nothing? Bro. T. will have to try again, we think.

Changing the Air in Cellars—In a recent number, Mr. S. Plummer asked the question whether in a wet and moldy cellar it would do any good to "place a fan wheel in one side of the cellar, and run by a wind-mill so as to put the air in motion around the cellar." The question was understood to refer to forcing in fresh air by means of a fan wheel (a method used for ventilating large buildings), and was answered accordingly. That was not intended, however, and now Mr. Plummer asks:

What will be the effect of a moderate circulation of the dead air in a cellar, on its temperature? What difference will there be in the density of the same?

It is not likely that merely keeping in motion the air in a cellar would give any satisfactory result. It will hardly make any noticeable difference either in the temperature or the density. You can easily try the experiment by putting a thermometer in a cold room, fanning it vigorously for 15 minutes or longer, then letting it stand the same length of time without fanning, then fanning again, and so on. If, during the intervals when the air is stirred by the fan, the thermometer shows no higher standing than when the air is at rest, it will be hardly worth while to stir the air in the cellar. To make it a more satisfactory trial, you might stir the air in the room by means of a closet-door swung back and forth.

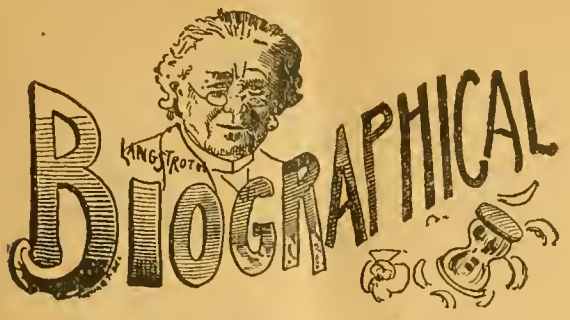
On the whole, you will probably come to the conclusion that it will be better to change the air in the cellar by introducing fresh air slowly, warming it in some way, if that should be necessary.

Honey Caramels.—Chas. F. Muth & Son, of Cincinnati, Ohio, have kindly sent us a sample box of their delicious "honey caramels." We have eaten caramels before, but none like those made by Friends Muth & Son. Theirs are simply superb, and there should be a great demand for them.

We cannot understand why not more confections are gotten up with honey in them. Here is a remunerative field for some genius, who would also win much honor by helping to replace tasteless adulterations with a pure and health-giving sweet. Chas. F. Muth & Son are leading the way.

An Attractive Calendar is the one sent out by that enterprising bee-supply dealing firm—The W. T. Falconer Mfg. Co., of Jamestown, N. Y. We have one hung up in our home, and our very much "better half" is delighted with it. See their advertisement on the last page.

The Inter-Mountain—a paper published at Salt Lake City, Utah, by Mr. John C. Swaner—is discontinued. We regret to learn this, and hope Mr. S. is none the poorer for having made the attempt at publishing a paper.



MR. JAMES A. GREEN.

The subject of this sketch is one of the younger bee-keepers of to-day, though he is becoming quite well known by his clear, practical writings, and uncommonly common-sense views of api-

JAMES A. GREEN.

arian matters. He was born at Dayton, Ills., on Oct. 20, 1861. Except for a few months spent at school, he has always lived, until very recently, in the house in which he was born.

His father was a manufacturer of woolen goods, and a large part of his son's early life was spent in the woolen mill. A store was also kept where groceries and the products of the woolen mill were sold, and he presided over the counters of this for several years. As his labor was needed in these directions, his schooling, after the age of 14, was confined mostly to the winter months. Besides the common school, two terms were spent at a seminary in Aurora, Ill., and six at a High School in Ottawa, from which he graduated in 1884, at the age of 22.

Feeling the need of a better training, this education has been supplemented by considerable reading and private study. In 1891, he received his diploma for the course of reading laid down by the Chautaqua Literary and Scientific Circle, and he expects to be a student all his life.

In 1876, the woolen business having proved unprofitable, was abandoned, and his father went to Colorado for a time. He had for many years kept a few colonies of bees. In his absence the care of these fell upon James. In this he had the invaluable assistance and encouragement of his mother, to whom is probably due his choice of bee-keeping as a business.

The bees were in box-hives, and had been managed after old methods, receiving but little care. His mother thought there must be better methods of management, and attempted to find some literature on the subject. It seems very strange now to consider how hard a time she had to find anything that related to bees. No one seemed to know where anything of the kind was to be found.

At last Harbison's work, published some years ago, was procured and carefully studied. Though there was much valuable information in it, that part of it devoted to hives only led him astray. Finally a copy of the AMERICAN BEE JOURNAL was procured by Mr. G. through a newsdealer. He has this yet, the first copy of a bee-paper he ever saw, and he would not part with it for a great deal. Through its pages other periodicals and books were learned of and secured.

About the same time he learned that a farmer not far away had procured

some modern hives and appliances, and he lost no time in visiting him and securing a part of his stock. This farmer was the veriest tyro in bee-keeping, and his newly-found enthusiasm did not last more than a year or two, but what Mr. G. learned from him was indeed a revelation.

Thereafter Mr. Green was a bee-keeper, and with the exception of one winter spent in teaching school, and another as a book agent, bee-keeping has been his sole occupation ever since, except that for a year or two he has helped out the poor seasons by selling a few bicycles. The number of colonies kept has ranged from 50 to 400. At present he has only about 225. Bee-keeping has always paid him satisfactorily until the past five seasons, but he has not extended it as he would have liked, as the failure of his father in business placed such a heavy burden of debt on him that capital has always been lacking.

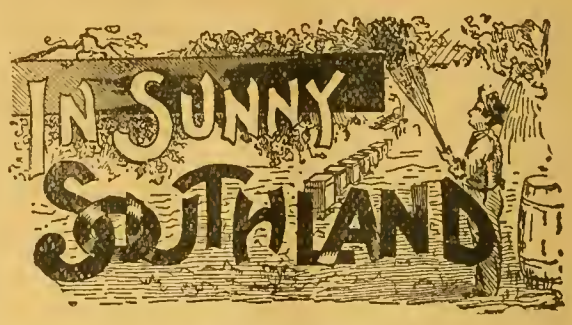
For several years he was Superintendent of the Sunday-school at Dayton, and also filled the office of Justice of the Peace.

The neighboring city of Ottawa had always furnished more congenial society than the little manufacturing village, and in the fall of 1892 he removed to Ottawa, where he will probably make his home in the future. He has been for some years a member of the Congregational Church where he now lives.

He started in his political life as a Democrat, but soon espoused the principles of the Prohibition party, in which he has been a candidate, and done some most excellent work.

Mr. Green is not married, and says he does not expect to be until fortune has smiled upon him a little more kindly.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.



CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Some Pioneer Bee-Keepers of Texas.

I wish to make some extracts from a private letter written by Dr. W. R. Howard, of Fort Worth, Texas, to W. R. Graham, of this place, regarding the pioneer bee-keepers of Texas, and those that founded the Texas State Bee-Keepers' Association, 16 years ago; and I wish to call attention to the outgrowth of these bee-masters. With the Doctor's permission I now make the extracts as mentioned:

"It affords me much pleasure to see the result of our work of many years ago. It was back in the 70's when we organized the Texas State Bee-Keepers' Association, which, through its annual conventions, stirred Texas from the panhandle country of the north to the coast countries of the south, and from Texarkana on the east to El Paso on the west; and awakened an interest in bee-keeping in every county in the State; and, as a result, developed some as fine bee and honey producing localities as are found in the United States, as well as bringing together 'kindred spirits,' developing filial affection and friendship, known and felt in no other pursuit.

"Many and happy have been the hours we have spent together in company with such men as Judge Andrews (rest his soul)—a man whom to know was to love, whose opinions were decisive, and whose experience in scientific as well as practical bee-keeping, has established facts which had never been discovered or mentioned, before his practical hand and deep theories brought them to light. But, alas, he tottered and fell.

"Then we have our Dr. W. K. Marshall, whom it is a pleasure to please, and who appreciates a friend so much, that it is felt with joy. If he ever sees a fault he never discloses it.

"Then, to be brief, we will mention a few more of the pioneers: F. F. Collins, Dr. B. F. Carroll, and many more whom it was a pleasure to meet and know. And last, but not least, W. R. Graham, the present President of the Association, and to whom we now owe the present existence of the Association, while some of us have strayed into other branches of business more profitable, as we thought, but of less pleasure and contentment, but our W. R. Graham has held firmly and unflinchingly to the old mast-pole, and stands to-day like a peer, and at the head, as one of the foremost bee-keepers of the South. He is always pleasant, meet him when you will; and, I now speak as I feel, and say to my mind, that no better, truer or kinder gentleman ever lived. I know him and love him for what he is."

Now we want to see every living charter member, and every bee-keeper in the South, and all that will come from the North, at our meeting on April 5th and 6th; and let us extend that brotherly love, as mentioned above, all over our land, and then what a happy class of people bee-keepers will be!

No hotel bills to pay at the meeting in Greenville, on the 5th and 6th of April. Let all come and enjoy themselves.

JENNIE ATCHLEY.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

April 5, 6.—Texas State, at Greenville, Tex.
A. H. Jones, Sec., Golden, Tex.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane....Middlebury, Conn.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Have You Read that wonderful book Premium offer on page 165?

The Biggest Snow-Storm since February, 1885, visited Chicago on Jan. 24th. On a dead level it was nearly 10 inches deep, although it was hard to find a place in the city limits where the snow had not been packed down or scooped into heaps. As soon as the people saw that the storm was in earnest, they began to fight it with brooms, shovels and plows. At every business house the porters and janitors came out with their implements, and if pedestrians didn't dodge they were hit in the back with hard wads of the compressed stuff. Oh, it was a regular, old-fashioned snow-storm, and no mistake about it. The sleighing here has been splendid for several weeks.

Bee-Men to Organize.—There will be a bee-keepers' meeting held in Bronson, Bourbon County, Kans., in Goodno's Hall, on Saturday, Feb. 11, 1893. The object is to organize a bee-keepers' association for Bourbon and Allen counties. You are to bring your dinner basket and stay all day, and are assured of having a good time. There will be a full programme. The meeting is called by J. C. Balch, of Bronson, and others.

Mr. R. S. Russell, President of the Indiana State Bee-Keepers' Association, says that their late convention at Indianapolis was "not so largely attended as was expected, yet the work performed was very satisfactory, and will result in much good to the bee-keepers of Indiana."

Annual Catalogues or Price-Lists we have received from—

Thomas G. Newman, 147 S. Western Ave., Chicago, Ills.—Bee-Keepers' Supplies.

J. W. Rouse & Co., Mexico, Mo.—Bee-Keepers' Supplies, Bees, Queens, Honey and Beeswax.

J. F. Michael, German, O.—5-Banded Golden Italian Queens, 3-Banded Queens, and Bee-Keepers' Supplies.

Proper Number of Cubic Inches in a Brood-Chamber.

Query 857.—How many cubic inches should there be in the brood-chamber of a bee-hive for the most successful production of comb honey?—N. I.

2,000.—JAMES A. GREEN.

About 1,600.—J. P. H. BROWN.

About 2,000 suits me.—MRS. L. HARRISON.

Near 3,000 cubic inches.—J. M. HAMBAUGH.

From 1,400 to 1,600.—G. M. DOOLITTLE.

Eight Langstroth frames.—WILL M. BARNUM.

Use an 8-frame Langstroth hive.—MRS. J. N. HEATER.

All depends. Minimum, 1,600. Maximum, 3,000.—J. H. LARRABEE.

I do not know. Opinions differ. I prefer about 2,000.—M. MAHIN.

Not less than the space of a 10-frame Langstroth hive.—JAS. A. STONE.

1,900 or 2,000, that may be readily reduced to 1,200 during clover and basswood bloom.—R. L. TAYLOR.

Not less than 8 Langstroth frames. I would rather have 10. But I am not a comb-honey producer.—E. FRANCE.

I think that depends upon the location. I like a hive not larger than an 8-frame Langstroth.—EUGENE SECOR.

I guess the Langstroth is about right. The one-half story case, like Heddon's, is often used with much advantage.—A. J. COOK.

There are few bee-keepers, perhaps, who have made more experiments in the past ten years than myself to determine this question, and my judgment is, that 1,400 cubic inches is about right, or a space to accommodate about 800 square inches of brood-comb. With such a brood-chamber, a queen-excluder is necessary, as also special management in spring breeding.—G. L. TINKER.

I use a hive containing about 1,700 cubic inches, and consider it hard to beat. This question depends somewhat upon the management.—C. H. DIBBERN.

My own idea is, that 10 frames, each containing one foot of comb space, is the correct size. I use the Langstroth frame, about 9 inches deep.—J. E. POND.

At least 2,000 up to commencement of work in surplus receptacles. After that it may be reduced a third, if you want the job of feeding for winter.—P. H. ELWOOD.

As no two apiarists use the same methods exactly, it will be impossible to give the size of hive for the "most successful production of comb honey."—H. D. CUTTING.

Let the comb-honey men answer; but my convictions are that I would risk a standard Langstroth without contracting for either comb or extracted honey.—S. I. FREEBORN.

To our minds, a hive large enough to receive the eggs of the most prolific queen is better than a small one, even for the production of comb honey. We have tested it before the introduction of the honey extractors.—DADANT & SON.

I don't know. I'm using eight Langstroth frames, but I'm not really sure I've gained anything by changing from ten. Even if eight frames are all right for me, different management might make a different number right for some one else.—C. C. MILLER.

No matter what anybody tells you, this is a matter that depends upon locality and method of management. It would take an article of ordinary length to discuss it. With my method of management I want a brood-chamber as large as the standard Langstroth.—G. W. DEMAREE.

Ten or twelve years ago, when I produced comb honey by the ton, I thought there was no better than the Simplicity hive holding ten Langstroth frames, and were I to begin producing comb honey again, I would be fool enough to try the same size hive. But as I am behind the times on comb honey, probably I had better say, I don't know.—MRS. JENNIE ATCHLEY.

Report of the North American Bee-Keepers' Convention.

Written for the American Bee Journal
BY W. Z. HUTCHINSON.

(Continued from page 142.)

The Secretary then read an essay from Prof. A. J. Cook, of Agricultural College, Mich., on

The Analyses of Honey.

Without any question, the adulteration of honey is one of the most serious obstacles to success that now stands in the way of bee-keepers, but like any other thief it can be restrained if it can be caught. We now know that through the aid of chemical analyses we can detect this arch enemy. And, of course, detection means capture.

Heretofore there has been doubt regarding the ability of chemical science to certainly distinguish the genuine from the spurious. The formulæ in use gave the maximum and minimum amounts of water. Every bee-keeper knows that since the advent of the extractor, and the often under ripe product, which is surely genuine honey, though not of best quality, the above rule would not be reliable.

Again, the amounts of cane and reducing sugars were to guide in making the determination. These vary largely in honey of undoubted purity, and the limits fixed upon were arbitrary. It is quite possible that these limits were not correctly fixed. We know that bees reduce the sugar in transforming nectar to honey, and it stands to reason that this reduction may be much decreased if honey is stored rapidly.

Again, honey comes from such varied sources, that a very large number of analyses must be made to fix upon the limits. It seems certain that the old rules are not entirely reliable.

The third means to a correct determination rests with the polariscope. It has been supposed that honey would always give a left-handed rotation. But when we find that this varies from 1° to 25° direct, and from 6° to 30° indirect—indeed some genuine honey gives a right-handed rotation—we may reasonably assume that arbitrary limits may mislead here as before. And that owing to the fact that bees may reduce the sugar more or less, and to the innumerable sources from whence nectar comes, we may conclude again that very many analyses must be made, to determine the range in all the varied cases, and that very likely the limits set in the past have been too narrow.

From the investigations made the past season, through the kindness of Drs. Wiley, Kedzie, and Scovell, in which over 50 samples of honey from different sources were analyzed, we have it pretty conclusively shown that our chemists *now* can *make* determinations that are practically conclusive. We can also detect a mixture of even one-fourth, or much less, of glucose with honey, by the high right-handed polarization. Yet we find that some honey from honey-dew—very poor, rank stuff—gives the same high right-handed polarization. As the rank honey-dew honey could never be put on the market, we see that practically we are secure at this point. It is desirable that we have a way to surely detect this honey-dew honey from honey adulterated with glucose, aside from the appearance and taste; and I congratulate the bee-keepers that we have one of the best chemists of this or any other country, Dr. H. W. Wiley, heartily in sympathy with us, who is now engaged in solving this problem, and who, if the thing be possible, will discover some re-agent that will make even this determination sure. As glucose will always be the greatest adulterant, owing to its cheapness, light color, and slowness to granulate, we see that we have the "detective" that can lay fast hold of this defrauder—adulteration.

If glucose were fed to bees and so converted into honey, I do not know whether we could detect it or not. That is a problem which 1893 is to solve. But this is not very practical, for bees are so adverse to taking glucose that it can never be fed at a profit, and so such honey, whatever its character, will never be produced. The very fact that it is not a good food for bees, makes us regard it with ill-favor even though converted into honey. But as just suggested, that is not a question of practical importance.

The experiments of the past season show that the chemist cannot by use of the present methods determine honey from cane-sugar from that of the best

floral honey. This is no surprise to us. Honey is transformed nectar. This transforming process simply reduces a portion of the cane-sugar. It is the same whether the nectar be floral or cane-sugar syrup. When we eat and digest cane-sugar we do precisely the same thing. Floral honey consists of a small portion of unreduced cane-sugar, the reduced sugar, either already in the nectar, or produced by the bees, plus a very small amount of certain additions received while in the honey stomach of the bee, as formic acid, etc., plus certain aromatic or flavoring organic substances from the flowers, which give to each special kind of honey its peculiar flavor, and enables us to distinguish it. In clover honey this last is very slight or mild ; in linden honey more pronounced; in buckwheat honey very marked.

As clover honey is the choice of most lovers of honey, we see this last element is not always an advantage. Could we easily, cheaply and harmlessly remove it and its companion, the dark hue, from buckwheat honey, we would be glad to do so. In transforming honey, the bees are not able to change this element of honey no more than is the cow able to change a similar though disagreeable instead of agreeable organic element which she finds in leeks, and which causes leeky butter.

Now honey from cane-sugar is precisely the same as the above, minus this very minute organic element. So the chemist detects no difference. And even lovers of honey pronounce this last real honey, and of excellent character, and they are certainly correct. You all know that Mr. Doolittle, who, by the way, knows much, believes that the younger bees transform the nectar largely, that possibly they swallow and regurgitate it several times, that the ferment from the head-glands may the more perfectly transform the nectar.

Last summer we fed 23 pounds of sugar syrup in one night. Some of this was extracted the next morning, and some after it was capped over, several days later. I was interested greatly in the analyses of these two samples of honey. One, No. 2, that extracted the next morning, gave : (Dr. Scovell's analysis) direct polarizatinn—1.1°; indirect—11.9°; sucrose, 8.21 per cent. ; reducing sugars, 66.67 per cent., and water, 17.65 per cent. The other gave direct polarization— -6.0 ; indirect — -11.75 ; sucrose, 4.00 per cent. ; reducing sugars, 73.39 per cent., and water, 16.80 per cent. It will be seen that though the change was principally effected the first night, yet there was a marked modification afterward, too great to be accounted for by the simple evaporation of water. With Dr. Wiley's approval, I shall hope that we may have more light on this special point another season. It seems now to support Mr. Doolittle's view.

If cane syrup was mixed with honey and not fed to bees, it would be adulterated product, and not honey. This could be told by the chemist at once. The large amount of sucrose and the altered rotation of the polarized ray would reveal its true product. It would not be honey, would not possess the peculiar honey flavor which all know too well, and so to sell it as honey would be fraudulent and indefensible.

Dr. Wiley is now analyzing several samples of honey-dew honey, that we may have more light on that product. In 1893 we shall have several analyses made of cane-sugar syrup, and the same mixed with honey in varying proportions, and the transformed product after each is fed and stored by the bees. We shall also have analyses of the same, except commercial glucose will replace the cane-sugar. And with these and the conclusions that Dr. Wiley will give us, I think we shall be in possession of all that we shall need in this direction. Even now we have the detective. What we want, and must have, is a live, wide-awake prosecutor, which we are to have in the National Bee-Keepers' Union. And adequate laws, which can be easily secured, if we wake up to the importance of the subject, and ask that they be enacted.

It seems to me that I see a brighter path in the near future for apiculture ; nor do I believe it is wholly my optimism that produces this impression.

A. J. Cook.

In reply to the foregoing, Prof. H. W. Wiley, Government chemist, addressed the convention as follows :

The Adulteration of Honey.

Mr. President, Ladies and Gentlemen :

I have been much interested in Prof. Cook's essay on the subject of the adulteration of honey, and am glad to have this privilege of complying with your request to add something more in the same direction.

After the publication of the results on the analysis of honey contained in Part 6 of Bulletin No. 13, the question was raised in some quarters whether or not chemists were able to distinguish be-

tween a pure and an adulterated honey. Some of the samples which we examined, and which were purchased in open market in different cities of the country, were found to be adulterated with glucose, and it was claimed that such an aduleration was unlikely, and that the chemists had been mistaken. Prof. Cook took a great deal of interest in this matter, and asked permission to send a number of samples of honey and honey substitutes, designated only by number, to the laboratory of the Department of Agriculture for examination. He also sent similar samples to the laboratory of Prof. Kedzie, of the Michigan Agricultural Experiment Station, and to Prof. Scovell, of the Kentucky Agricultural Experiment Station. In all 53 samples of honey were received at our laboratory from Prof. Cook, and these have been analyzed, and the data transmitted to him.

We have not yet been informed by Prof. Cook of the nature and origin of the samples, and therefore cannot tell, as far as that is concerned, what success we have met with in distinguishing between the good and the bad; yet Prof. Cook has already published the fact that all three of the chemists engaged in this work have detected every spurious or adulterated honey which was contained in the lot. On the other hand, a few samples which were of known purity have been classed as "suspicious," but not condemned as adulterated. The general result is that the chemist working with ordinary care, and with well-known processes, is able to detect all ordinary adulterations of honey, but at the same time he may include among the spurious articles some samples which are genuine.

The special forms of adulteration which we were expected to determine were glucose and cane-sugar. Both of these adulterations are very easily determined.

Some of the samples of honey received were obtained by feeding directly to the bees cane-sugar syrup which was stored rapidly and at once extracted. Other samples were obtained from bees which were storing honey very rapidly from a known source, and this honey was taken as soon as deposited. These general items of information I have gleaned from the article Prof. Cook has already published in regard to that examination.

I am sorry not to be able to entirely agree with Prof. Cook in his definition of honey. A few years ago I defined honey at the saccharine exudation of flowers gathered and stored by bees. This definition may properly be applied to any saccharine exudation of flowers or plants gathered and stored by bees, provided they are not aided in this matter by any artificial means. In other words, cane-sugar which a bee would of itself extract from a plant would very properly be classed as pure honey when stored by the bees in the hive; but cane-sugar fed to the bees in the form of syrup and simply stored by the bees in the hive could hardly be deemed a pure honey. This is a matter, however, which it is not within my power to determine, and I shall be much interested in knowing the result of the discussion now going on among your own members on what constitutes pure honey.

The problem of the adulteration of honey has been somewhat complicated within a few years by the discovery that certain honeys or saccharine exudations gathered by bees show at ordinary temperatures a right-handed rotation. Such honey was formerly supposed to be of coniferous origin, that is, gathered exclusively from pine trees. Later it has been shown that such honeys are probably derived from exudations produced by this aphis or plant-louse, either directly from the trees, through the influence of the louse, or through the organism of the louse itself. This exudation is commonly known as "honey-dew," and entomologists are undecided whether or not the honey-dew passes through the organism of the louse, or is the result of the attack of the louse upon the plant. At any rate, such exudations show peculiar properties, and it is doubtful whether, under the definition given above, they could be classed as genuine honeys.

It is said by Prof. Cook that a number of the samples of honey sent by him were of plant-louse origin, but the numbers representing these samples are not yet known to me. I have, however, found in the number sent by him, six which are peculiar in their optical properties showing a slight right-handed rotation not due to cane-sugar, and which I would class as suspicious honeys. It is more than probable that it will be found that these honeys are of plant-louse origin.

Prof. Cook doubts whether or not a honey made from pure cane sugar, which has been stored for some time in the hives, can be detected from a genuine floral honey gathered and stored by bees. In the present state of our chemical knowledge the doubt of Prof. Cook is well founded. I am confident that it will not be long before we shall

be able to discriminate definitely between such articles of artificial honey and genuine honeys as those above mentioned. Investigations in this line have not gone far enough to enable any definite statement to be made now, but I can only say that the results are very hopeful, and lead to the just expectation of soon formulating a method of discrimination between the honeys mentioned.

One property of pure invert sugar will be found very valuable in such an investigation, namely, the fact that pure invert sugar made from cane-sugar when examined in a polariscope at a temperature of about 88° C, is optically neuter, that is, neither deflecting the plane of polarized light to the right nor to the left. In every case of a pure floral honey which has come under my observation so far, it was found that at the temperature mentioned it showed a right-handed polarization. In two of the samples sent by Prof. Cook, it was found that the honey examined at 88° showed a left-handed polarization. Now this is due probably to the fact that the honey was partially crystallized, and the samples sent were the liquid portion consisting almost exclusively of levulose, while the solid portion not sent would consist almost exclusively of dextrose. This is only a supposition on my part, as I have not yet learned from Prof. Cook the nature and origin of the samples mentioned. But every one will agree that a honey obtained by drawing off the liquid portion from a partially granulated honey would not in any sense of the word be a pure, normal honey, any more than the residue would be. It is possible, however (and that must be mentioned here), that the nectar of some flowers contains naturally an excess of levulose, in which case the honey gathered therefrom, although left-handed at 88°, must be considered pure. These are matters which subsequent investigations will make clear.

Another important factor in the examination of honey is in the amount of reducing sugar, so-called, which it contains; that is, the quantity of sugar in it which is capable of reducing a copper salt to the condition of a sub-oxid. In all pure floral honeys it has been observed that the percentage of reducing sugar in the dry substance does not fall in any case below 85°, while in general it reaches nearly to 90° or above. When, therefore, a honey is examined in which the reducing sugar is decidedly less in quantity than 85 per cent. of the dry substance, it must at once be regarded as suspicious.

The percentage of ash is also a matter of some importance. It has been found so far that in the suspicious honeys in the samples sent by Prof. Cook, that the percentage of ash is greater than in the honey which seems to be pure. Further investigations, however, will be necessary to determine whether this is a general rule or not.

Strange as it may seem, one of the most difficult things in the analysis of honey is to determine the amount of water which it contains. One of the simplest methods consists in drying a small portion of the honey in a flat bottom platinum dish for about 15 hours, at the temperature of boiling water. Determined in this way the average percentage of water in the samples of honey examined was found to be about 16. The lowest percentage found was 13.75 in a clearly adulterated sample, and the highest percentage found was 22.75 per cent. in one of the samples which was abnormal in having still at 88° a left-handed polarization.

In general it may be said that it is possible for any one who is disposed to make a mixture of pure honey with a small quantity of certain adulterants in such a way that the chemist would be unable to detect the fraud; but such a method of adulteration would never be practiced commercially because it would not be profitable. On the other hand we may boldly say that in all commercial adulteration the chemist will be able to find the fraud, and the skill of the chemist will doubtless keep pace with or excel the skill of the adulterator.

In the general examination made by the Department, which has been referred to above, two particular samples of honey deserve a special word. In almost every market of the United States were found samples of honey labeled "Pure Old Virginia Honey," manufactured by Geo. K. McMechen & Son. In no instance was a sample of this honey found to be pure. All samples purchased in the open market were adulterated.

Another peculiar sample of honey was labeled "Hoge's Horehound Honey," good for coughs and colds, and said to be gathered from a certain region in California. This sample was accompanied with the most enthusiastic testimonials, and also had a certificate of a justice of the peace in regard to the nature of the locality where it was supposed to be gathered. Several samples of this honey were obtained, and they were

found to be pure fabrications, consisting of cane-sugar syrup with about 3 per cent. of alcohol. They contained no honey whatever.

I have thought the members of this Association might be interested in seeing some of the apparatus and re-agents which are employed in the analysis of honey, and in looking at some of the operations of a chemical nature. I have on the table here the principal apparatus and re-agents employed in such examinations, and which I shall take pleasure in showing the members.

(The polariscope and chemical apparatus used in honey analyses were exhibited and explained to the audience.)

In conclusion, permit me to say that the work of the Department has shown that of the liquid honeys on sale, bought in open market, nearly 45 per cent. are adulterated. Every bee-keeper can see at once how greatly enhanced in price the product of his industry would be should such adulteration be prohibited and prevented. It is necessary that all should work together in harmony and in earnest to secure this result. The bee-keepers will find the Department of Agriculture hereafter, as heretofore, doing everything in its power to detect and prevent the adulteration of honey. H. W. WILEY.

Prof. C. V. Riley—There is such a difference in honey obtained even from natural sources, and it is so difficult to be able to know *exactly* from what source a sample comes, that I regard it as extremely doubtful if the chemist will ever be able to say positively in regard to the purity or impurity of all samples.

A. N. Draper—Can a person who is not a chemist, by the use of litmus paper, or some chemicals, determine in regard to the purity of honey?

Prof. Wiley—No, sir. It requires great skill and training, and the proper apparatus.

Although Prof. Wiley thought that there was so much adulterated honey on the market, he doubted if it was of a character that was injurious to health. He considered glucose a healthful food, but said that its use robbed the bee-keeper of selling just so much honey.

(Continued next week.)

Webster's Pocket Dictionary we offer as a premium for sending *only one new* subscriber with $1.00. It is a splendid Dictionary—and just right for a pocket.

A New Era in the Production of Honey.

Written for the American Bee Journal

BY J. F. LATHAM.

If the conventicle spirit of the times is portentous, it is apparent from the gist of the discussions emanating from some of our "leading bee-keepers," that a new system of honey-production is in process of evolution. Whether it is to result in bee-manipulation, or the absence of "bee-mediation," much depends upon the definition applied to the terms, as the basis of the movement indicates, in a ratiocinative aspect, that a reaction is in progress of inauguration strongly tending to artificial mediation, which may culminate in raising the "scientific pleasantry" to the head of the list.

Sugar-honey! Glucosed honey!! Is not the lauded "gift of the gods" falling into disrepute? Then, again, "honey-dew honey"—a newly-coined Anglicism—is placed on the list of honeys as an offspring *Corpus sinepectore;* for mutual adoption by the apiarian world.

What is to become of the pure nectar from the flowers—Honey—that has received so much admiration in poetry and prose for more than 30 centuries? Surely, if the *medical qualities* alone of honey are a sham, I fear Pluto's dominions may not be adequate for the immigration to his realm; and an overflow will be left behind to chant the virtues of sugar-honey.

But enough of this. Let us stir up the witch's cauldron, and try a survey of the contents.

First, it may be asked with propriety in what exists the necessity of feeding sugar syrup to bees for the purpose of obtaining honey by the process? How often we have been told in the bee-papers, by our mentors in bee-knowledge, that sugar syrup fed to bees, and stored by them in the combs, will be sugar syrup still. That has been my experience while feeding sugar syrup for

winter stores. This fact is noticeable when sections of honey, in bright, new combs, are taken from the hives as soon as filled and capped, and when allowed to remain over the brood apartment until the close of the season. The flavor of honey in the comb, that has remained on the hive through the season, is modified more by the odor of the pollen in the brood-combs than any other way, and, in many instances, very agreeably so. The musky odor from the bees may have something to do with the ideal quality—the subtile "twang" purported to exist in "*sugar*-honey," after it has passed through the bee's honey-stomach and received the benefit of the "digestive" process. But as the theory of digested honey appears to be somewhat metaphysical, perhaps the alimentive propensitives of the narrator may possess attributes outside of the sphere of common mortals, and is therefore better qualified to judge of the merits of his favorite sweet than those who do not have "it on their tables every day."

If the advocates of sugar syrup prefer it to honey, they have an absolute right to use it, and no one has a right to object to their doing so; but when they attempt to purloin the merits of honey to foster their intents, when offering their preparation for sale, they should receive a decided condemnation from every *bona-fide* bee-keeper in the land.

The plea of a honey famine is no excuse for dishonesty, or a movement of the kind advocated by the would-be votaries of "sugar-honey." If the fountains of nature are insufficient for their greed, why not "step down and out;" and adjure the pursuit of bee-keeping, thereby freeing it from the odium of a masked insincerity?

On page 160 of Prof. Cook's "Manual of the Apiary," 3rd edition, may be found the following, viz:

"In all feeding, unless extracted honey is what we are using, we cannot exercise too great care that such feed is not carried to the surplus boxes. Only let our *customers once taste sugar* in their comb honey, and not only is our reputation gone, but the whole fraternity is injured."

If the foregoing admonition from the Professor was sound 15 years ago, it seems that an explanation is needed from him to reconcile his teaching then with those purported, on page 20 of the BEE JOURNAL, to have been uttered in the 27th annual convention of the Michigan State Bee-Keepers' Association, viz.:

"Pres. Taylor—I would like to ask Prof. Cook, if he were producing sugar-honey, would he sell it for *honey?*"

"Prof. Cook—I should. I agree with the essayist [Mr. Hutchinson] in every point," etc.

There is an old adage, that "every house has its skeleton." Should this become a reality with the bee-keeping fraternity, they may find that, like Banquo's ghost, "it will not down."

P. S.—Since the foregoing was written, I have received the BEE JOURNAL for Jan. 12th, and I find, on perusing its contents, that my position on the "sugar-honey" question is well fortified. The latest outcrop of scientific labor *in the interest of bee-keeping*, is likely to prove an abortion.

Success to the "old reliable" AMERICAN BEE JOURNAL.

West Cumberland, Me.

Convention Reports—Bees and Pollen, Etc.

Written for the American Bee Journal

DR. C. C. MILLER.

A report of a live bee-convention may be the most interesting part of a bee-paper, and it may be made the very poorest. Some secretaries report all the part that the general reader wants to know, omitting that which is of no particular interest to any except members of the convention, while others omit entirely that part that outside bee-keepers want to hear, and give exactly that part which has no interest at all for outsiders.

In reading a report of a convention, the principal thing, if not the only thing that interests generally is the bee-talk. There are other things of prime importance to be kept in the Secretary's book, as the names of members and the passages of resolutions demanding action at the next meeting, but that doesn't interest the outside reader. In fact, if the discussions are fully reported in any of the bee-papers, there is little need to enter them on the Secretary's book, in which case there is little entered on the Secretary's book that is worth printing, however valuable it may be to the society.

I am not greatly interested to know that a vote of thanks was given to the landlord for the excellent manner in which his parsnips were cooked, nor do I care much to read the Mayor's speech of welcome to the beautiful town of Skeezington, but I am very much inter-

ested in hearing every word of practical bee-talk that occurred.

Condense as much as you like, so long as you leave everything clearly understood, but please give us in print only that which will be of interest to those outside of the society, and you will find, as a general rule, that that includes very little more than the discussions.

BEES STARVING ON POLLEN.

I was just a little surprised to find the answerers on page 822 (1892) so unanimous in the opinion that bees could not live on pollen alone. The general verdict seemed to be that of Mrs. Atchley, that "They will live just about long enough to starve to death."

Two of the number were of the opinion that when bees are confined to a pollen diet they die because pollen makes them sick. There may be cases where this is true, and for aught I know it may be true generally, but I am very sure there are cases where bees finish up their honey in the winter, and then starve with plenty of pollen inside the cluster, and yet show no signs of diarrhea. I have seen more than one case of this kind, with combs and frames all nice and clean. I think it quite likely that when bees die from starvation after a long confinement, they will suffer from diarrhea, whereas if they had less honey and died earlier there might be no disease.

AN IMPORTANT DISCOVERY (?).

On page 825 (1892), C. J. Robinson says: "The notion that a virgin queen receives from a drone into her 'sac' sufficient spermatic fluid to impregnate her worker-eggs during an existence of six or more years, is the sum of ignorance." As this "sum of ignorance" is to be found generally among bee-writers and authors, barring the unusual age given to the queen, it would be interesting to know by what means Mr. Robinson obtained his light.

"APICULTURAL LITERARIANS."

Referring to the article of Mr. Clarke, on page 827 (1892), I wonder if it is not possible that he and Mr. Heddon are looking on different sides of the same shield. There are some things connected with bee-keeping in which I would give much more for the views of a man who kept 100 colonies, than of one who kept only one. On the other hand, there are things as to which the views of a man who had only a single colony would be worth just as much, or more, than if he kept a thousand.

If Capt. Hetherington were in the presence of some of the scientists who have with great painstaking found out all about the internal structure of the bee, he might stand in open-mouthed wonder, and feel that he knew very little about bees; but if one of those same scientists wanted to get a big crop of honey, he might be glad of the Captain's advice.

Even in every-day, practical matters, the close observation of the man with a few colonies is hardly possible for the man who is kept on the keen jump to get through the work of his hundreds. But on either side, there may be such a thing as saying a good deal without knowing much—as he that "darkeneth counsel by words without knowledge."

Marengo, Ills.

"That Bee With the Glands"—A Challenge.

Written for the American Bee Journal

BY DR. J. W. M'KINNEY.

On page 861 of the BEE JOURNAL for Dec. 29, 1892, also on pages 19 and 20 of the current volume, the strange and positive statement is made to the effect that "bees can make honey out of cane-sugar that cannot be told from honey." It is absolutely surprising to find men, claiming to be men of science, make such glaringly absurd statements as are here referred to.

As the publisher of the BEE JOURNAL, perhaps judiciously, has seen fit to interdict the discussion of the "sugar-honey" question through its columns, I would ask permission to make a few plain statements in regard to this matter.

1. That cane-sugar cannot be converted into honey by bees.

2. That honey as gathered from the nectaries of flowers by bees contains, in addition to saccharine matter, a *mucilaginous* substance, together with an aroma and flavor not present in cane-sugar, nor in the syrup made from it.

3. That bees cannot supply the mucilage, etc., of honey to syrup made from pure cane-sugar.

4. That the acid present in honey and in sugar syrup is a vegetable acid, generated by the action of atmospheric oxygen, and not an animal acid, or an acid secreted by the bees.

These are some of the plain facts pertaining to pure honey and sugar syrup; and as Prof. Cook has made the positive

statement that they cannot be distinguished the one from the other, after the bees have handled them and stored them in their combs, I wish to make this proposition:

I will agree to deposit $100 with Thomas G. Newman, the General Manager of the National Bee-Keepers' Union, or with the editor of the BEE JOURNAL, Geo. W. York; and Prof. Cook, or any one else, to deposit $50. Then there shall be furnished a sample of pure honey gathered from white clover, Spanish-needle and heart's-ease stored separately in new combs' and capped over; together with a sample of pure cane-sugar syrup that has been furnished the bees and stored by them in new combs and capped; and if I cannot distinguish the sugar syrup thus stored from either of the samples of honey, I will forfeit the money deposited. Should I succeed, however, in making the distinction, I will "take down the pot," and present the Professor with the samples of honey and sugar syrup.

Camargo, Ills.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Bees Wintering Well.

The winter is rather hard on bees, that is, outside, in this locality. I have 100 colonies in the cellar, and they are doing well. J. R. ESKEW.

Shenandoah, Iowa, Jan. 21, 1893.

"Purple" or Italian Clover.

On page 117, Mr. O. P. Miller asks about "purple clover." The name is a humbug, but not the plant. It is nothing but Italian clover—crimson trefoil, or scarlet Italian—*Trifolium incarnatum*. It is an annual or biennial plant, according to the time when it was sown—In fall or spring. I tried to sow it in the fall (as it is mostly practiced in my native country), but it did not stand the American winter, here in central Illinois. I will try it again as an annual. It resembles red clover, but the spikes of flowers are long—as long as 6 or 7 inches—which open successively in about 4 weeks, and give an immense quantity of seed, far larger than red clover. The flower-tubes are much shorter than those of red clover, are perfectly accessible to bees, and frequented with unusual zeal. Ten dollars per bushel is exorbitant.

Sigel, Ills. WM. LEERS, M. D.

Queens Showing Their Age.

Queens do not show their age all alike. A queen's looks do not always indicate correctly her age. They vary in their outward appearance the same as mankind. Some queens live to be five years old, and some only one year. Queens, as a rule, the first year look very nice and bright. A good queen, the second year, looks about as nice as the first year; the third year her beauty begins to fade. As a rule the fourth year the wings get short, and they get short all over—a good deal like you will look when you get old; you will show your age. Those queens that Dr. Mott spoke of on page 45, put me in mind of buff Coachin hens—they lay a while and then want to set. I never had a queen act as his did. I have had some start out slow, but after they got started they sent the eggs out like shot from a double-barrel shot-gun. Practice makes perfect. G. W. NANCE.

Peiro, Iowa, Jan. 19, 1893.

Feeding Bees in Winter, Etc.

In the swarming season of 1891 I accidentally found a swarm of bees settled on a bush by the roadside late in the evening, as I was coming home from work. We got a hive and hived them, and brought them in. They worked nicely and stored honey. When winter came on, I placed them in a cave. I was very anxious about them, fearing they would not winter all right, as my previous experience with bees was that they always died; but this time they went through all right.

On July 10, 1892, they sent out a nice swarm, which I hived, and they filled the hive full of honey. Again on July 19th they sent out another swarm, which died about with the old year, having no stores. I failed to see after

them, and feed in the fall at the proper time, so I made a fixture to feed after cold weather set in, which was as follows :

I took a box 6 inches square by 10 inches long, with both top and bottom removed ; in place of the bottom I placed in a glass, and set the top of the box up to the entrance of the hive, and supported it by means of a cord tied around both the hive and box (or feeder). In the top of this box I split out a strip 3 inches wide the full length of the box, and tacked screen-wire over it, to admit of air and ventilation. I put it in the cave opposite the door which opens to the south, and admitted sunshine. In the box I placed a small trough which I filled with syrup ; on sunshiny days the bees would work at it well, but they failed to get enough in sunshine to keep them through the cloudy weather, so my feeder was a failure.

I also caught three wild swarms last swarming season. I now have 5 colonies that I think are in reasonably good condition, and comfortable in the cave. I have them in box-hives, and will transfer to movable-frame hives in the spring, and will Italianize them and try to take care of them on a little more scientific principle. 1. Please give the dimensions of the Langstroth hive, and how to make it. 2. In transferring bees from box-hives to movable-frame hives, will foundation starters, 3 or 4 inches wide, be sufficient, or will it be necessary to give full sheets.

O. E. McCABE.

Bear Grove, Iowa, Jan. 5, 1893.

[1. The size of the Langstroth frame if 9⅛x17⅝ inches. Any supply dealer will be glad to furnish you a sample nailed hive. Consult our advertising columns for dealers.

2. It is generally considered best to hive swarms on full sheets of comb foundation.—ED.]

Coldest Weather in Five Years.

Bees have not had a flight since the first part of last December. They are sleeping *a la* Clarke. We have had the coldest weather—that is, continuously cold—that we have had in five years, though if bees are packed in good shape, they will be all right. The mercury has been 15° below in places.

GEO. SPITLER.

Mosiertown, Pa., Jan. 19, 1893.

Alsike Clover for Seed and Honey.

There is no question in my mind at present, as to whether it pays to raise Alsike clover or not. From eight years' experience with it, I feel safe to advise every bee-keeper that is located in the clover belt, to try at least a small patch next year, on low ground. It grows very luxuriantly with timothy, and makes an excellent hay for either cattle or horses. Last year was the first that I cut it for seed. The patch that I cut for seed was only one-third of a stand, and yielded four bushels of nice seed per acre, and is selling fast to my neighbors at $10 per bushel ; and the clover after it is thrashed makes good feed for cattle, even if rain-beaten and bleached before stacking. I have never before been able to obtain $40 for the use of an acre of ground, and with so little labor ; and, besides all this, I also had a fine flow of honey of excellent quality. Hundreds of acres will be sown here next season. FRANK COVERDALE.

Welton, Iowa, Jan. 19, 1893.

Too Little Protection for Winter.

Bees did not do much last season—did not get honey enough to supply the home market, yet the bees went into winter quarters with plenty of honey. I built a bee-cave last fall, and put in 30 colonies which I think are doing finely. But a great many here leave their bees out on the summer stands with but little protection. I think this winter will be pretty hard on them, as we are having a pretty cold winter so far. We have had fine sleighing for over a month.

SAMUEL FLORY.

South English, Iowa, Jan. 17, 1893.

Results of the Season of 1892.

My report for 1892 is as follows : I put into the cellar 215 colonies Nov. 20, 1891, and took out 210, which spring dwindled to 170, almost all weak, and some very poor, and did not gather any surplus. About 100 got in fair condition for the honey-flow by July 1st. I obtained about 2,500 pounds of comb clover honey, and about 1,500 pounds of extracted clover honey. My total amount of comb honey was 5,155 pounds, and total of extracted was 7,580. The fall honey was heart's-ease.

The spring of 1892 was the worst for bees that I remember of in all my bee-keeping—for more than 20 years. The bees were in poorer condition in June

than in April, when they were put on the summer stands. I have now 230 colonies in the cellar, in fine condition, that will average about 60 pounds each, of good honey. My best wintering breeding colony has had only 2 dead bees on the bottom-board so far this winter; while I have a few others that have had more than a quart of dead bees to date.

I am still not discouraged with bee-keeping, and the prospects for another year are promising. There is plenty of white clover and plenty of snow to cover the ground to keep the clover from getting frozen. N. STAININGER.

Tipton, Iowa, Jan. 20, 1893.

Dark Italians or Golden Italians?

Which are the best honey-producers, dark Italian bees or golden Italians? I have 32 colonies, mostly Italian hybrids, and one golden colony, that I exchanged queens last fall. As honey gatherers, it was too late to find out much. I have two golden queens due me in the spring. I have heard it disputed, or claimed, that the dark Italians would store more honey and breed up faster than the goldens. I do not want to make any mistakes. I want the bees that will breed up the quickest in the spring, and store the most honey.

Cazenovia, Wis. JOHN BOGGS.

[Will some one who has had sufficient experience with both varieties, please reply to the above question?—ED.]

Hiving Swarms on Drawn Combs.

After reading Mr. Hutchinson's article on hiving swarms on drawn combs (page 823 of 1892), I must say I am surprised, too. It seems very strange that two bee-keepers living in nearly the same locality have such a marked difference in experience. For the last ten years I have hived swarms on starters, full sheets of foundation, and full drawn combs, resulting in favor of the last named. I hived 20 swarms on drawn combs last year, and met with the same result—one colony giving me 80 pounds of comb honey, 50 pounds of which was gathered in 14 days from the time they issued. I do not see anything slow, gingerly or grudgingly about that, do you?

Last year I hived swarms on starters only; I put queen-excluders on, and then the supers, and now for the result: About one out of five gave me 20 pounds of comb honey, and filled their brood-chamber, while the remainder gave me no finished sections, neither did they fill their hives. Just think of the condition they were in for winter, or for the fall honey-flow! You may say that I did not hive my swarms, but I did just the same as I always do. Please remember that the honey-flow lasted about the same length of time.

Mr. H. also speaks about sorting out all imperfect combs, and melting them into wax. Yes, we all know what a desirable job that is—it is not only a disagreeable work, but a very expensive one. ORVILLE JONES.

Stockbridge, Mich.

Down with Honey Adulteration!

I am very glad to learn the AMERICAN BEE JOURNAL is still taking a firm stand against the aduleration of honey in any form, and that earnest work has already commenced for its suppression. I consider it a more worthy enemy to draw swords with than the one the National Bee-Keepers Union (of which I am a member) has been fighting. The monster must be crushed. All honor to Prof. Cook for any truthful discoveries, but I feel as if it (the idea of bees turning sugar into honey) would do ten times as much harm to our chosen pursuit as good—it would make a loophole for the adulterators (pension them off, so to speak) to slip through, and then continue their villainous work. Hurrah for the amendment to the Constitution of the National Bee-Keepers' Union!

WALTER HARMER.

Manistee, Mich., Jan. 6, 1893.

Value of Bee-Literature, Etc.

We have had cold weather here, 18° below zero, so I thought I would look over my back numbers of the AMERICAN BEE JOURNAL, and I see that I have been a subscriber more than 20 years. Then the BEE JOURNAL was $2.00 per year, and I would rather pay $2.00 now for it than to do without it. The BEE JOURNAL and other bee-papers are our welcome visitors. We are always sure to find something new, and they are seldom laid down until every article is read; then when we are in bed we can think of what we have read. It seems wonderful how much can be learned about bees, when we read the many periodicals and books that have been written, all devoted to the busy bee. It seems the more we read and study, the

more we are surprised how little we know about our pets.

The farmer can breed his stock just as he pleases; I wonder how long it will be until the bee-keeper can say the same with his bees. Mr. Doolittle says he would willingly give $50 for a plan by which he could mate the queens that are reared to selected drones as he wishes. Now cannot some of our leading bee-men help to solve this question, and if so, then I would say give him the highest seat in our ranks, and call him our leader. SAMUEL UTZ.

Kenton, Ohio, Dec. 20, 1892.

Good at Starting Queen-Cells.

Bees in this locality were put into winter quarters in pretty fair condition. The honey crop was not very good. I secured 25 pounds of honey, on an average, per colony. I experienced something new last summer. One evening, as I came home from my work, I found a cluster of bees on a bush. I hived them at once, as the sun was set, on one empty comb. The next morning I found some 70 queen-cells started. I at once gave them a queen, as I had some in readiness; but to my surprise they at once balled her. I then caged her and left her with the bees for 48 hours, then turned her loose, and she was accepted. Why did not these bees return to their hive? If queenless, why not accept the queen at once? There was no brood or eggs in the comb.

Bee-keeping is carried on in a "hit or miss" way in this locality. I see a great many box-hives. I saw some last summer which were in the weeds and thicket-grass so that it took a bee about five minutes to climb and crawl through; that is a fact. The owner said he would quit keeping bees. I think that is the best plan for him.

FRED BIESEMEIER..

Sterling, Nebr., Jan. 2, 1893.

"The Winter Problem in Bee-Keeping" is the title of a splendid pamphlet by Mr. G. R. Pierce, of Iowa, a bee-keeper of 26 years' experience. It is 6x9 inches in size, has 76 pages, and is a clear exposition of the conditions essential to success in the winter and spring management of the apiary. Price, postpaid, 50 cents; or given as a premium for getting one new subscriber to the BEE JOURNAL for a year. Clubbed with the BEE JOURNAL one year for $1.30. Send to us for a copy.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

56 FIFTH AVENUE, CHICAGO, ILLS.

Special Notices.

The Date on the wrapper-label of this paper indicates the *end* of the month to which you have paid for the JOURNAL. If that is past, please send us one dollar to pay for another year. This shows that Mr. Porter has paid his subscription up to the *end* of December, 1893:

Wallace Porter Dec93
Suffield, Portage co, Ohio

REMOVAL NOTICE.

In order to get better accommodations, and for greater convenience, we have moved the AMERICAN BEE JOURNAL into a new office, at 56 Fifth Avenue, near the northwest corner of Randolph St. Our correspondents, and friends who may desire to call upon us when in Chicago, will please bear in mind our new place—56 Fifth Avenue.

Convention Notices.

NEW YORK.—The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.

H. C. FARNUM, Pres., Transit Bridge, N. Y.

TEXAS.—The Texas State Bee-Keepers' Association will hold its 15th annual convention in Greenville, one mile north of the Court House, at the apiary of Mrs. Jennie Atchley, on Wednesday and Thursday, April the 5th and 6th, 1893. One of the biggest bee-meetings ever held in the South is anticipated. Everybody is invited. No hotel bills to pay. Come one, come all, and let us have a lovely meeting, and an enjoyable time. All bee-keepers invited to bring along something to exhibit. A. H. JONES, Sec.

Golden, Texas.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, February 4th, 1893:

CHICAGO, ILL.—There are occasional sales of best grades of comb honey, but the retailers are not yet sold out on supply laid in before the holidays. Prices are a little easier, especially on that which will not grade "fancy"—such brings 17@18c., and other grades 12@16c. Extracted, 6@9c., as to quality.
Beeswax—22@25c. R. A. B. & Co.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It selis readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted.fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

CINCINNATI, OHIO.—Demand from manufacturers, for extracted honey, was slow for the last few weeks, while there was, and is still, a fair demand from consumers for family use. There is no choice comb honey in the market. Best white comb brings 14@16c. Extracted honey brings 6@8c.
Beeswax—Demand fair, at 23@25c. for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Comb honey is selling slow, very much slower than we like to have it, and it is our experience that when we start honey in at a high price, it sells hard right through the season. We quote our market nominally at 17@18c. for best white honey, 1-lb. combs. Extracted, 8@9c.
Beeswax—None on hand. B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted. 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote: Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

ALBANY, N. Y.—Our honey market is slow on account of cold weather, but our stock was never so light as now. We have less than 50 cases of honey on hand, and only one barrel of extracted; when usually we have 1,000 cases in stock. For honey not granulated in comb, we quote: White (small), 15@18c.; mixed 13@14c.; dark, 10@11c. Large comb and double glass sell for 1 to 2c. less per lb. Extracted, white, 8½@9c.; amber, 7¼@8c.; buckwheat, 7@7¼c. H. R. W.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.
J. A. LAMON, 44 & 46 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Doolittle's Queen-Rearing book should be in the library of every bee-keeper; and in the way we offer to to give it, there is no reason now why every one may not possess a copy of it. Send us one new subscriber for a year, and we will mail the book to you bound in paper, as a present.

Please Don't send to us for bee-keepers' supplies. We do not deal in them. If in need of anything for the apiary *except a good bee paper or book*, just send for the catalogues of some of our advertisers. They will be glad to fit you out, and do it well.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line**, for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

WANTED—A practical apiarist. A situation in an Apiary or Hive Manufactory. 12 years' experience.
Address, G. C. R., Box 707,
6Alt Austin, Minn,

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., FEBRUARY 16, 1893. NO. 7.

"**Stars** will blossom in the darkness,
Violets bloom beneath the snow."

The North American convention report is completed in this issue of the BEE JOURNAL. We wish to call particular attention to Prof. C. V. Riley's address, which is very interesting, as it comes from one so near to the head of the Department of Agriculture.

We will put the whole report in pamphlet form in about two weeks, and any one disiring a copy of it can get it by sending us 25 cents. Of course the members of the Associatian will get it free.

Very much matter for publication has accumulated during the past few weeks, but we felt that the North American Report should come first; now as that is finished, we will be able to publish other very interesting matter that we have been compelled to hold back. We trust that those who have sent in anything for publication in the BEE JOURNAL will not get uneasy, as we are doing the very best we can, and will soon reach their particular contribution.

Sugar-Honey Folks Again.—In reply to our editorial remarks on page 136, Dr. Miller has this to say further regarding those who think it would be a good thing for bee-keepers to feed sugar to produce comb honey:

Now, look here, Mr. Editor, don't you imagine that you're going to choke me off by calling me "kind-hearted." May be you'll not think me so kind-hearted before I get through. Reading very carefully all you say on page 136, it seems to me you don't squarely meet the issue. You say, "When we have committed a wrong we expect to suffer for it, unless by showing sincere repentance we may be forgiven." That's all right, but are you going to repent just because somebody calls you names, instead of trying to show you anything you have done wrong?

That's a nice figure about "switching," but figures sometimes don't prove anything, and many a train has been wrecked just because it "kept on the main line" when it ought to have been side-tracked. In fact, in the present case, the trouble is that the sugar-honey idea wasn't switched off onto a side-track long before it was, and quietly left there.

Are you "so mad with rage" that you can't look at the thing straight? The whole gist of the matter lies in a question that I asked you, and that you utterly ignore. I said, practically, that these brethren honestly believed that bees *make* honey out of sugar, and then asked, "Believing that, was there anything criminal in their saying so?" Please give a categorical answer to that.

I think the whole case in a nutshell is just about this: They said, "Bees make honey out of sugar." We said, "They

don't. Shut up." They shut up, and stay shut up, and you're not satisfied.

Now will you formulate in words what you think our mistaken friends ought to say? They have a certain belief that I think erroneous, and yet may they not be just as honest in their belief as I? *Have you proved that their belief is wrong?*

You say, "We bear no malice toward them, but we feel that they have made a mistake that they should hasten to correct." Candidly, I don't believe you bear any malice, but I think others do believe it, and think they have grounds for their belief. You want them to "hasten to correct" their "mistake." Now how do you want them to correct it? Do you want them to say, "We were mistaken in our views?" But they don't think so. Do you want them to lie? What do you want anyhow? Do you remember that at one time A. I. Root thought it would be a good thing to feed glucose? Then everybody called out, "Stop; it will hurt the business." Then he stopped. Did he get down on his marrow bones and "hasten to correct his mistake?" No, he just stopped, and no one wanted him to do anything else. Now these brethren have stopped; hadn't you better stop?

C. C. MILLER.

Did you ever read so many questions in all your life? Why, one would think that our good Doctor would turn completely into a regular interrogation point! We think he fully appreciates the *questionableness* of the subject he's asking about, and that may account for his numerous "categorical" inquiries.

We never thought of "choking off" the Doctor by calling him "kind-hearted." We have heard of "killing people with kindness," but somehow we don't think that kind of "murder" is very effective. We wouldn't like to try that on a mule, at any rate—but may be that is what *he* is trying to do with us. Perhaps we are rather mulish—but we believe mules, sometimes, have their advantages.

As to repenting "just because somebody calls you names," we would say that we didn't know anybody was called names; but even if they had been, there likely would be a good cause for it. After all that has been printed in the BEE JOURNAL on this subject, we are surprised that any one should question the wrong done by the utterances of the sugar-honey people. If they haven't seen the wrong yet, they must be "as blind as those who won't see." If bee-keepers can conscientiously feed sugar to bees to be stored in combs, and then sell it for honey, may they not almost as consistently mix glucose with extracted honey, and sell it for pure honey? It differs mainly in appearance—the results are about the same.

We quite agree with the Doctor that "the trouble is that the sugar-honey idea wasn't switched off onto a side-track long before it was, and quietly left there." The BEE JOURNAL thought it had succeeded in getting the "idea" safely side-tracked over a year ago, but its friends wouldn't let it stay side-tracked. We are not to blame for their running it on the main line again, and causing a regular smash-up. All "wrecks" must be cleared away, however, no matter who is responsible for the accident.

No, sir; we're not "mad with rage;" and are "prohibition" enough both in principle and practice to *always* "look at the thing [any thing] straight!" We never see things "double," if that's what you mean. Just because "these brethren *honestly believed* that bees *make* honey out of sugar"—*does that make it so?* If their statements result in the great harm to the production of honest honey, that thousands of the best bee-keepers really believe it will, then we would say, yes, it *was* criminal for them to say what they did. A bee-keeper may "honestly believe" that mixing glucose with honey and then selling the mixture as "honey" is right—but then all other conscientious bee-keepers, who have a speck of morality left, know that it isn't right.

Shutting up, and staying "shut up," will never counteract the evil effects of what was published *before* the "shut up" admonition was heeded. "What is writ, is writ," and you can't "unwrit" it.

But if what was written should result just opposite to what was intended, one can at least express a regret. We will not attempt to "formulate in words what" we "think our mistaken friends ought to say," but it is another mistake for any one to say that *we* expect them to state anything contrary to their honest convictions. The question is not whether bees *make* honey or not, but whether the *publishing* of the suggestion of feeding sugar to bees for the production of honey will not result in untold danger to floral honey production. We have said before, that these columns would be open to a manly expression of regret that the stupendous mistake had been made, of *publishing the idea.*

We know a man who is "honest" in his "belief" that he is doing right when he sells liquid damnation to his fellow men; but *we* think the whole cursed traffic should be annihilated. We don't have to prove to that man he is wrong. Self-evident truths need no proof.

Again we must say that we bear no malice toward the sugar-honey folks, or anybody else. But we do feel sorry that we must disagree with them in their views; and that we feel it our duty to oppose them in their suggestion of producing honey by feeding sugar syrup to bees. We don't want any one to "lie," but we cannot believe that only two or three are right about this matter, and all the thousands of others are wrong. We prefer to stay with the majority this time, though it was safer with the minority in the days of Noah and his ark.

Bro. Root's glucose idea is not a parallel case. Good testimonies say that bees don't like glucose in their honey any more than do people. But we are very certain that Bro. Root had grace enough to say that *if* what he suggested was going to result disastrously to bee-keeping, he most assuredly regretted ever having even hinted at such a thing.

These latter-day brethren may have "stopped" as did Prof. Wiley in his "manufactured comb honey" talk, but just like that unfortunate utterance we fear the sugar-honey idea will be carried in the sensational newspapers throughout the length and breadth of the land, and, it seems to us, cannot help being to the great detriment of the sale of pure floral honey. We sincerely hope that we may be wrong in our views, but we are inclined to believe that we are not.

Is there Poisonous Honey?

—The following question is sent for reply in the BEE JOURNAL:

Does honey from the ailanthus poison bees? Is there any other honey from common plants or trees that poison bees?

Prof. Cook replies thus:

From all that I can gather, I doubt if any natural honey will kill bees or people. The stories about ailanthus, rhododendron, etc., are much to be questioned. It is very probable that some plant-louse or honey-dew honey is bad for bees, and will prove fatal for winter, just as glucosed honey does. I think the sickness from eating floral honey is not because the honey is poisonous. Of course, I may be wrong, but I have excellent reasons for my opinion.

A. J. COOK.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

Feb. 25.—Wabash Valley, at Vincennes, Ind.
Frank Vawler, Sec., Vincennes, Ind.

April 5, 6.—Texas State, at Greenville, Tex.
A. H. Jones, Sec., Golden, Tex.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane....Middlebury, Conn.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Moving Bees in Winter.—The following questions are asked by Mr. F. H. Richardson, of Elliott, Mo.:

1. I have just moved my bees in wagons very carefully. It was pretty cold. Please tell me whether it will hurt them. I found 6 colonies with light stores. 2. How can I feed syrup in cold weather?

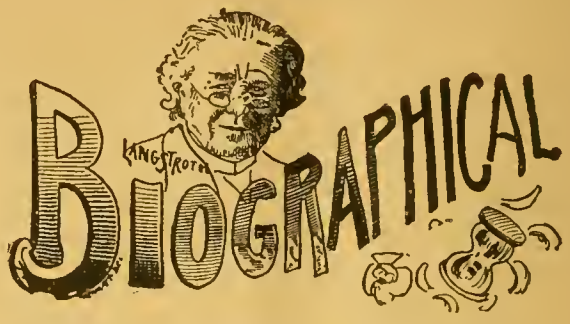
1. Yes, moving bees in cold weather is likely to hurt them, but it depends upon circumstances how much. If it was not too cold, and they had a chance for a flight within a few days afterward, the weather being warm enough, the probability is that you will not detect any great damage. Since the moving is already done, it is well to look on the hopeful side, and in any case it would be well for you to report in May how they come out, for the benefit of others.

2. In freezing weather you can feed syrup most easily by pouring it all over the bees, and this will kill them quicker than to let them starve to death. In other words, don't think of feeding syrup unless the weather continues warm enough for the bees to fly freely long enough to store the syrup and get it in good shape, which can hardly be before spring fairly opens. If you have comb honey, that is the best winter feed, but be sure the bees get to it. If you haven't comb honey, make candy.

Old Subscribers.—In response to our call in the issue of the BEE JOURNAL for Dec. 29th, for those to report who have taken this paper ever since it was started, in 1861, we have heard from the following, which shows there are very few who have been subscribers for 32 years:

J. L. Hubbard, Walpole, N. H.
A. D. Sellers, Jefferson City, Mo.
R. Dart, Ripon, Wis.
D. D. Daniher, Madison, Wis.
Wm. Ashcom, Ligonier, Pa.
Wm. Wilson, Bardstown, Ky.
J. D. Goodrich, E. Hardwick, Vt.

"Bees and Honey"—page 197.



MR. G. M. DOOLITTLE.

We are much pleased this week to be permitted to present to our readers the picture and biographical sketch of one so well and favorably known all over the bee-keeping world—Gilbert M. Doolittle.

Mr. Doolittle, of Borodino, N. Y., was born April 14, 1846, near his present location, in the town of Spafford, Onondaga County. His parents were natives of Connecticut, and moved to New York a few years before he was born; hence the thoroughness, energy and activity of the "Yankee" are largely manifested in the subject of this sketch. From his earliest youth, Mr. D. has been an admirer of the busy bee, taking great interest in them when kept by his father. Later on, nearly all the bees in his section of country perished with foul brood, so that from 1856 to 1862 a colony of bees was a rarity. After this the disease seemed to abate, so that, in 1868, bees were quite common again.

As 1868 was a splendid honey season, bee-talk was rife in his locality, which again brought to life old ambitions which had been crushed out by the former loss by disease among the bees, so that the spring of 1869 found Mr. D. with 2 colonies of bees of his own, as the starting-point to his present apiary. Wishing to know for himself all of the minutiæ of this (to him) interesting pursuit, he procured nearly all the bee-books of that day, and subscribed for the bee-papers. As his ambition led him toward the practical side of bee-keeping, Quinby's "Mysteries of Bee-Keeping Explained" was his favorite, the pages of which

were as familiar to him as a nursery rhyme. His intense desire to learn and investigate the bees in every particular has been such that he has dreamed of them at night, and thought of them in his working hours to almost an absorbing extent, and to-day he is still a student, believing that there are many unexplored regions, and much room for the deepest thought, even on the practical part of this pursuit.

In the first years of his apicultural study, Elisha Gallup, then living in Iowa, gave him by letter much practical instruction, which, together with Gallup's articles in the different papers of that time, so grew into his life that he went by the name of "Gallup" among bee-keepers about him for several years; and to-day he is often heard to say that there never has, to his mind, been a greater man in the realm of bee-keeping than E. Gallup.

Gallup, in his private letters, laid great stress on good queens, claiming that around the queen centered all there was in bee-keeping, which has caused the subject of this sketch to study along the line of queen-rearing to a much larger extent than any other part of this interesting pursuit, and it is believed by him that much of his success as a honey-producer has come from this, and his ever-anxious care to get the hive filled with brood at such a time that there would be multitudes of field-bees at the opening of the honey harvest.

To the above we may add the following, which was written of Mr. Doolittle by a good friend, in the "A B C Bee-Culture:"

GILBERT M. DOLLITTLE.

As a business, Mr. D. has made bee-keeping a success, although he has never kept a large number of colonies, principally, if not wholly, because he prefers to keep no more than he can manage without outside help. In 1886 he wrote in the AMERICAN BEE JOURNAL:

"From less than 50 colonies of bees, spring count, I have cleared over $1,000 each year for the past 13 years, taken as an average. I have not hired 13 days' labor in that time in the apiary, nor had apprentices or students to do the work for me, although I have had

many applications from those who wished to spend a season with me. Besides my labor with the bees, I take care of my garden and small farm (29 acres); have charge of my father's estate, run my own shop and steam engine, sawing sections, hives, honey-crates, etc., for myself and my neighbors; write for seven different papers, and answer a host of correspondence."

Mr. D. works for comb honey, and also makes quite a business of rearing queens for sale. Although a prolific writer, his fund of information never seems exhausted, and he is uniformly practical and interesting. His writings give evidence of the close and careful thinker. In personal appearance Mr. D. is of commanding presence, being large (275 pounds) and well formed, of sandy complexion, and in manner he is a genial Christian gentleman.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Our School in Bee-Keeping.

Dear readers, I will now begin bee-keeping with you "from the stump," and will go through almost all the details connected with successful Southern bee-culture. As promised, I do this for the benefit of beginners, and as some of our readers have asked me to tell them how to rear queens, I will go with you through this branch of bee-keeping, before I am done. These articles I will call "Our School in Bee-Keeping," and the larger the class the better the school, or the more there are of us the happier we will be.

All the tuition fee that I will charge is $1.00 to pay for the AMERICAN BEE JOURNAL for a year, and you can have the book, "Bees and Honey," besides. Should you fail to start in with us, we will send you all the back numbers, letting your subscription begin with the school. Those of my bee-keeping friends in the South, who take the BEE JOURNAL, will confer a great favor if they will send to me the names of their neighbor bee-keepers that do not take it, and tell them that this little school will be worth to them twice the price of the paper, and encourage them to send in their subscriptions.

Now, I am desirous of doing more for bee-keeping in the South, in the next few years, than has been done in the last ten; and to do this, I *must* get the bee-keepers to read the BEE JOURNAL, and trust that all my friends in the South will help me out in this, by sending in all the names and subscribers you can.

Now I will close this preface, by again asking all to lend a helping hand, and let's bring forward bee-keeping in this Sunny Southland of ours—the paradise of the honey-bee.

THE FIRST LESSON.

First, let me ask if you have a book (a colony of bees), if not, you had better get one by the next lesson, as we cannot learn as well without books. I will take the ones with box-hives as the A B C class, so you that bought your bees in a frame hive just wait a little until I show the others how to transfer their bees and combs to a frame hive, then we will all start together.

The best time to buy a colony of bees is in the spring, about fruit-bloom time, and the best time to transfer it will be as soon as you get it home. Yes, and I had better tell you how to get your hive home.

Go over to the nearest neighbor that has bees, and tell him you want a colony of bees, and that you are not particular whether they are black or yellow, but you would like to buy a thrifty colony. They should cost you about $2.50, or if the hive is real heavy, and a good colony of bees, do not grumble if he asks you $3.00 for them.

Now, light a smoker well, and get a sack that is large enough to slip over the hive, slip the hive into the sack, and lay it in your wagon.

Ah, hold on, you are doing wrong right on the start; that is just why so many people fail in working with bees—they go right on without asking permission from the bees; that is, never touch the hive until you have smoked the bees well. Now you have smoked long enough; in four or five minutes they will all be filled with honey, then you can do what you please with them—they have given you permission.

Now you are ready. Put the hive into the sack and lay it in the wagon, drive home, and every time you handle them in any shape, smoke them until they become used to being handled, and then always thereafter just smoke them when they begin to show fight. Now you have a good start—a fine colony of bees in a box-hive.

I will now show you how to transfer them. Lay the hive on a table, raise the entrance of the hive about two inches the highest, and let the top of the hive extend out over the edge of the table. Now knock off the top of the hive, only raise it up a little at first, and blow in some smoke, then take it clear off. Now smoke the bees up toward the entrance of the hive, and they will leave the honey and cluster on the hive. Place a pan or some vessel under the dripping hive, and get as much of the honey out as you can, then pry open the box, or cut the nails with a cold chisel or an old hatchet. To lay the hive down in such a manner as to have the combs edgewise is best.

Now, if the bees have clustered on any part of the hive, you can take a dipper and dip them off, and pour them into the new hive, then they will be out of your way.

Now begin taking out the combs, and use the smoker to drive the bees out of your way, and as you lift out the combs, brush the remaining bees off of it into the new hive. A brush made of corn-shucks is good, tearing the shucks into shreds, and tie on a handle like a little broom; this makes the best and cheapest brush of anything that I have tried. When it becomes hard, dip it in water, when it will be soft, and will not hurt or make the bees mad.

Now as you take out the combs, lay those containing the most honey by themselves, and put the brood-combs in a separate place. When you have the combs all right, then lay the frames down on the transferring board—a board a little larger than the frame, and you should have two of them. Now lay the combs on the frames, and cut them to fit the frames, and tack small, thin strips of wood across the frame in such a manner as to firmly hold them. Then turn the frame (board and all together) over, by placing the other transferring-board right on top of the frame that you have tacked in; take hold of the two boards, and turn over, holding tight enough to keep the comb and frame in place.

Remove the board, and tack on strips as before; then hang it in the new hive with the bees, and continue this until all combs are in that you wish to put in, and close up the new hive—I mean, put on the quilt and cover, and place the hive where wanted, and all is well. If you did not have combs to fill all the frames, you can, if you wish, put in foundation in the rest.

Now, you have the bees into a frame hive, where you can handle them as you choose; and if you have done a good job, the combs will be just about as straight as if built there by the bees.

There are other ways of transferring, but I have given you this as my best way to have the combs nice and straight. I can transfer some faster with strings, or with tin clasps, but when the combs are heavy with brood or honey, they will bulge. Where the combs are cut to fit nicely, they will stay without anything to hold them, but you had better use the wooden clasps clear across until you get used to it. Then when the bees get the combs well fastened, you can pull off the clasps, and you are done.

Now these directions are where you are to do all the work yourself. Of course, when you have plenty of help you can cut out combs, and some one else tack in, and another dip off the bees and place the transferred combs in the new hive, so by the time you get the combs all cut out, the bees are ready to put away, etc. Now the A B C class is ready to start in with the next class.

Bees Gathering Pollen in Mississippi.

Bees, in this part of southern Mississippi, so far as my knowledge extends, have wintered finely, though we have had the coldest weather, and the most of it, that we have had for years. We have had some pleasant weather for a week or ten days past, and the bees have had a good flight, and were bringing in pollen yesterday and to-day as though spring had opened up in earnest. Upon examination I find my bees have plenty of stores to carry them through. The indications are that we will have a good honey-flow this year. I hope to see our Southern bee-keeping friends give us the news from different parts of our Southland.

R. W. THOMPSON.

Estabutchie, Miss., Jan. 28, 1893.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

How to Safely Disinfect Foul-Broody Hives, Etc.

Query 858.—1. Having had a colony of bees with foul brood, how can I disinfect the hive so that it will be safe to use again without contracting the disease? 2. Will foul brood originate in a healthy colony of bees if the bees have access to decaying or rotten brood, the brood being taken from a healthy colony and left exposed?—Mich.

1. Boil it. 2. No.—James A. Green.

1. Burn it. 2. I think not.—C. C. Miller.

1. Burn the hive. 2. No.—Mrs. J. N. Heater.

1. Boil it. 2. I should fear it.—Will M. Barnum.

1. I do not know. 2. I think not.—Jas. A. Stone.

1. Boil it in water. 2. I don't know.—J. M. Hambaugh.

1. If I had one hive, and only one, I would burn it. 2. No.—E. France.

1. By keeping it in boiling water for say 15 minutes. 2. No.—R. L. Taylor.

1. Look up authorities on foul brood. 2. I have no experience.—EugeneSecor.

1. Sulphur it, and let it remain empty for a season out-of-doors. 2. No.—P. H. Elwood.

1. Burn it, and use the ashes around your grape-vines. 2. I do not know.—Mrs. L. Harrison.

1. Keep it five minutes in boiling water. 2. Never; no more than will figs come from thistles.—A. J. Cook.

1. This question cannot be answered in a few words. 2. No, if the brood was not killed by foul brood.—Dadant & Son.

1. I have had no experience whatever with foul brood, and know very little about it. 2. I should say yes.—C. H. Dibbern.

1. Boiling-hot water will destroy any living germ if the contact is long enough. 2. Such a thing has never occurred in my apiary, and I have no fears that it ever will. But I don't know. I have never seen a case of the disease known as "foul brood," and if there was ever any such disease among bees in this end of the earth, the oldest men I have met never heard of it.—G. W. Demaree.

1. I don't know. I never had any among my bees. I always thought I would burn them up if I had. 2. I think not.—S. I. Freeborn.

1. I don't believe it can be done. I have tried it, and find it don't pay. 2. Foul brood will not originate in the manner suggested.—J. E. Pond.

1. Scald it out thoroughly, then give it a good coat of paint inside, and it will be safe to use again. But unless lumber is high, the better way would be to burn the whole business. 2. No.—Mrs. Jennie Atchley.

1. Boil it for 30 minutes. 2. No. You can contract blood-poisoning from several different sources, but you will not take small-pox from the measles, nor the itch from erysipelas. When you get the germs that produce foul brood, then you will have foul brood, and not before.—H. D. Cutting.

1. Melt the combs, burn the frames, scald the hive, including top, bottom, and all the traps, even to the smokers and feeders. Old sections should be burned, etc. The trouble is, you are not half thorough and careful enough. 2. No.—J. H. Larrabee.

1. I think that boiling it for a time would do. There are several disinfectants which I think would do, such as carbolic acid, sulphur, and perhaps chloride of lime. 2. I think not.—M. Mahin.

1. Wash the hive inside and out with carbolic acid, then give it inside and out a coat of paint. 2. While I cannot say positively, I would dislike to have the experiment tried in my apiary.—J. P. H. Brown.

1. Burn the hive and all its contents, this winter, for you cannot afford to run any risk for *one* bee-hive. 2. I think not. But why leave rotten brood around? If you are to be an apiarist worth the name, you will not leave such around you or the bee-yard.—G. M. Doolittle.

1. My belief is that if the inside of the hive was saturated with a mixture of equal parts of alcohol and carbolic acid, and allowed to dry out, it would be safe, especially if a little napthaline was used upon the bottom-board after the bees were again put into the hive. 2. There seems little doubt but that foul brood may originate in the manner suggested, but not always.—G. L. Tinker.

Report of the North American Bee-Keepers' Convention.

Written for the American Bee Journal

BY W. Z. HUTCHINSON.

(Continued from page 211.)

At this juncture, Assistant Secretary of Agriculture, Hon. Edwin Willits, was introduced, and made a few remarks. In substance he said that the Secretary of Agriculture was in sympathy with bee-keepers. He is not so very much interested in the introduction of fancy races of bees, but is very much interested in the improvement of practical apiculture. In the way of bee-keepers securing aid from the Government there are two difficulties. One is to secure the money to work with. There are very many interests that are asking for assistance, and the average congressman is very ignorant upon bee-keeping subjects. The next difficulty is as to *what to do*. An apiary cannot be established at Washington. The Department of Agriculture has asked for 300 acres of idle land near Washington to be used for experimental purposes, and have failed to get it.

What the Department of Agriculture Ought to Do for Apiculture.

Last year, at the Albany meeting, a committee was appointed to decide what bee-keepers ought to ask of the Department of Agriculture. The committee reported as follows:

The committee to whom was referred the matter of Government aid to apiculture, beg leave to report and advise that the bee-keepers of the United States petition—

1. That the Section of Apiculture in the Division of Entomology, Department of Agriculture, be raised *to an independent Division.*

2. That in connection therewith there be an experimental apiary established at Washington, having all the appointments necessary to a first-class Apicultural Experiment Station.

3. That the appropriation for this Division be sufficiently large so that the work may not be embarrassed for the lack of funds.

This is the least that we can ask in justice to ourselves. That most important part of our business devoted to the production of liquid honey is in great danger of being ruined by cheap sugar. The chief competition of liquid or strained honey in the manufactures is cane-sugar, and the recent removal of the duty on it, and the consequent lowering of prices, has materially lessened the demand for honey. We find that we will have to lower the cost of producing honey in order to meet this most unequal competition so suddenly thrust upon us. Millions of money are taken from the treasury to reimburse the producers of cane and maple sugar for the loss occasioned by the removal of the duty, but our legislators entirely forgot the producers of honey, whose product is but sugar with the flavor of the flowers added. We do not ask a bounty, but we do ask the Government for all the assistance that scientific research and well-directed experimental work can give us in cheapening the cost of production. This is but a moiety of what is granted the sugar men.

Our industry is still in its infancy, and while many million pounds of honey are already produced, the business is capable of an expansion so great as to wholly eclipse the present production of sugar from the sugar-cane. Four contiguons counties have produced, in one season, over four million pounds of honey, and this represents but a fractional part of what might have been gathered. Vast as our business may become, the indirect benefits conferred by the honey-bee on the agriculturists of this country in the fertilization of the flowers of fruits, grains and seeds, will always surpass in value the value of the honey gathered by the bee.

The committee have named Washington as the place for the experimental yard, because it would be most convenient; also because of the longer season in which to experiment. There may be better locations for honey, but for many experimental purposes a poor location may be best. If for any purpose a better flow of honey is desired, such a location may be found a few miles out, and a part of the bees removed to it.

Should the convention decide to adopt this report, it would undoubtedly be best to have a committee estimate the necessary expense, and *immediately* formulate a petition for circulation

throughout the country, naming the amount of the appropriation desired, and the changes called for, together with a few of the reasons why we demand help at this critical juncture.

Respectfully submitted,

P. H. ELWOOD,
J. E. HETHERINGTON, } *Com.*

Following this came an essay by Dr. C. V. Riley, Government Entomologist, on

What the Department of Agriculture Has Done, and Can Do, for Apiculture.

The wisdom of establishing as a part of our Government machinery a Department of Agriculture charged with doing all it can to foster and encourage agriculture in all its branches, will not be questioned by any one who has made himself acquainted with the work of the Department since its organization, first as a bureau in the Department of the Interior, later as a separate Department, and finally as a co-ordinate Department with representation in the cabinet. There are those who would abolish it, and who believe that the moneys appropriated for it are thrown away, but such are ignorant of the needs of agriculture in a great and new country like ours. That, as in all Government bureaus, there is some waste of means, and that some unnecessary or parasitic growths have attached to it which might well be removed or reformed, is also incidental to the development of any Government organization; but so far as my experience goes, there are fewer of these abnormalities in the Department which ministers to the wants of the farmers, than in almost any other of the Departments of the Government. In almost every case, also, they have resulted from political interference, and indeed the greatest danger to the Department as at present organized is the increase of political and bureaucratic influences, which is almost inevitable.

Some of the most beneficent and far-reaching work of the Department was done during its earlier history, when its means were limited, but when the field was fresh, and the opportunities relatively greater; and it is a notable fact that when the appropriation for the introduction of seeds and cuttings did not reach $10,000, where now it reaches over ten times $10,000. The introduction of new and improved varieties of grains and fruits gave results that were more beneficial and far-reaching than now, because the fund originally intended for such purposes has, through Congressional action, been so largely perverted to the miscellaneous distribution of ordinary seeds, as to be looked upon by many as a serious abuse.

It has been the desire of almost every one who has been at the head of the Department to pursue a broad and liberal policy, to the end that all the branches of rural economy might receive their due share of attention. The head of the Department is, however, helpless without Congressional aid and sympathy, and it has too often happened that investigations which promised valuable results have had to be abandoned because of the failure of Congress to make the needed appropriations.

I venture these introductory remarks in part explanation of the record of the Department in apiculture, which it is my privilege to present to you.

The annual products of the apiary have been variously estimated at from fifteen to twenty millions of dollars, while I need not insist to the members of this Society that the work of insects, and chiefly of our bees, in the fertilization of our seed and fruit-producing plants far exceeds in value all the honey and wax product, so that it is quite impossible to estimate the combined value of these direct and indirect benefits from the bees.

Fifteen years ago, when I first accepted a position in the Department, there was provision only for an entomologist without assistants or means for any experimental or field work. During the next four or five years I succeeded in impressing the Commissioner of Agriculture and Congress with a sense of the importance of the work to be done in efforts to counteract the ravages of injurious insects, and the appropriations for both office assistants and field work increased. But the self-evident advantage of endeavors to protect the farmer from some part of the immense losses occasioned by insects, had to fight its way into recognition. It was not until 1885 that the more important work done in counteracting the ravages of injurious species had sufficiently advanced to justify my giving some attention to apiculture, and the fact that nothing more resulted from the work then begun may, to some extent, be laid to the lack of effort on the part of the bee-keepers themselves, *i. e.*, to their failure to take united action, such as would bring home to the head of the Department, and to those in charge of the general appropriations, the needs and just demands of the industry.

However, that considerable has been done by the Department, and through its agency for bee-keepers—much more, probably, than most of you are aware of—the published reports of the Department show. These reports, hundreds of thousands of which have been distributed very generally over the land, have surely had their influence in the promulgation of intelligent and humane methods in the culture of bees. Beginning about the time of the first edition of Langstroth's celebrated work, or nearly a decade before any bee-periodical had been printed in the English language, the Department reports have from year to year given some notice of progress in bee-culture, statistics of honey and wax production, and on several occasions excellent little treatises on bees and bee-management. Notable among these is the article on the nature and habits of the honey-bee, in the report for 1857. I cannot give the name of the author, as the initials only of the Chief Clerk of the Patent Office are attached to it. In 1860 Mr. William Buckisch, of Texas, gave, in an extended article, a review of bee-culture as practiced by Dzierzon and his school. The essay by my old friend, Mrs. Ellen S. Tupper, of Iowa, published in the report for 1865, and covering her theory of bee-keeping, was widely read and frequently quoted, creating much interest in improved methods.

The introduction of Italian bees into this country is certainly one of the advances in American bee-culture which ranks second only to the invention of the frame hive, the honey extractor and the comb foundation machine. But how many even now know that the Department of Agriculture had anything to do with the matter? Leading text-books on apiculture are silent on this head. The fact is, however, that the first successful importation of Italian bees from their native land to America was made by the Department, and it was almost wholly from this importation that such skillful apiarists as Langstroth, Cary and Quinby bred and disseminated the race during the early '60's.

Individual effort had, for some years previous, been directed to securing this race of bees, and in the autumn of 1859 a few queens were landed here from Germany by Mr. P. J. Mahan, of Philadelphia, on his account, and by Samuel Wagner, of York, Pa., and Richard Colvin, of Baltimore, acting together. Those imported by Messrs. Wagner and Colvin were lost during the winter which succeeded, and those which Mr. Mahan imported do not seem to have been multiplied as rapidly as the importation made through the Department of Agriculture the following spring.

Mr. S. B. Parsons, acting for the Department, was in Italy at this time, making purchases of cuttings and plants for testing in this country, and an order was transmitted to him by the Department to procure some hives of Italian bees. Ten were purchased by him in 1859, and forwarded to this country in May, 1860. These were distributed among several of the best bee-masters, and they at once set about the rearing and sale of the queens of the new race.

Thus it was that the Department succeeded where private enterprise had failed in this most important undertaking. Those who wish confirmation of this statement will find it in the Agricultural Report for 1859, page 543, and in that for 1863, page 530. The former is a letter written by Mr. Parsons while in Lausanne, Switzerland, and the latter is an extended article on the Italian honey-bee by Mr. Richard Colvin, a competent authority, and who had been one of the private parties who had tried during the years 1858–60 to import this particular strain from Europe.

It were beyond the scope of this communication to enlarge on the merits of the Italian race of bees, particularly as Mr. Benton has treated us to a communication on the varieties of bees; but I may be pardoned for calling attention to what I believe to be a truth which all will admit who are familiar with the progress of apiculture in the United States during the past thirty years or more, namely, that the benefits, direct and indirect, which have accrued to American apiarian interests through the introduction of the bees of Italy, far exceed the few thousand dollars which, all told, the Department from the time of its organization to the present day has expended in the development of this industry as one of our national sources of wealth. As will appear from its report for 1877, the Department was earnestly solicited to appoint a Commission for the purpose of gathering statistical information as to the condition and growth of bee-keeping in the United States; to communicate with the largest and most successful bee-masters, and secure their methods of wintering, and otherwise managing bees; to test modern and improved apiarian appliances, and recommend such as are worthy; to point out the most favorable bee-ranges in the country; to encourage the cultivation of honey-producing plants; and to ed-

ucate apiarists to use caps and crates of uniform size for commercial convenience. The Department had, however, neither the means nor the power to organize such a Commission as was urged.

In 1885 I was enabled to establish, in response to what I felt was an evident want, an apicultural station, having fortunately the full sympathy of Commissioner Colman in the work. The station was located at Aurora, Ills., and Mr. N. W. McLain, an enthusiastic and well-informed apiarist, was placed in charge. The reasons for establishing the station, and the objects in mind, I quote from the introduction to my report as Entomologist for that year:

"Among the subjects which I desire to have investigated in addition to some of more purely scientific interest, are the following:

"1. To secure the introduction and domestication of such races of bees as are reported to possess desirable traits and characteristics; to test the claims of such races of bees as to excellence, and to prove by experiments their value to the apiculturists of the United States, and their adaptation to our climate and honey-producing flora.

"2. To make experiments in the crossing and mingling of races already introduced, and such as may hereafter be imported, and by proper application of the laws of breeding endeavor to secure the type or types best adapted by habit and constitution to the uses of practical bee-keepers in the United States.

"3. To make experiments in the methods of artificial fertilization, and, if possible, demonstrate the best process by which the same may be accomplished.

"4. To study the true causes of diseases yet imperfectly understood, and the best methods of preventing or curing such diseases.

"5. To obtain incontestable results by intelligent experiments on scientific methods, as to the capacity of bees, under exceptional circumstances, to injure fruit; *i. e.*, to set at rest the ever-discussed question of bees *vs.* fruit."

The experiments of the first year—the station having only been started in June—had reference to economy in the production of wax; feeding devices; the wintering of bees, and the question as to whether bees injure fruit; the artificial fertilization of queens, etc.

In 1886 the experiments as to whether bees can injure fruit or not, were continued, and Mr. McLain's report contains the results of experiments and observations as to wintering bees, the prevention of spring dwindling, bee forage, (especially in regard to plants, etc., that might be cultivated for honey); diseases (particularly foul brood), and the control of fertilization in confinement. These last two subjects received special attention again in 1887, and experiments in mating queens to selected drones were made.

In Commissioner Colman's report for 1888 occurs the following paragraph in explanation of the cessation of the apicultural experiments:

"Owing to the lack of specific appropriation, it has been necessary to discontinue the apicultural experiment station. This is to be regretted, as the station has done good work, and as it has accomplished results of considerable benefit to this extensive and growing industry. This Division stands ready to continue this work at any time when Congress shall make appropriation for it."

Personally, I was intensely interested in the results of this experimental work, and while unforeseen contingencies arose which materially interfered with my plans, yet I knew Mr. McLain to be a man full of energy and enthusiasm in the cause, and exceptionally well posted in all matters relating to bee-culture. Yet he never had the full sympathy or co-operation of some of the most voluminous writers on the subject, and who, from being looked up to as authorities, are not always most sympathetic with others. There is probably not one of Mr. McLain's critics who would have done more of real benefit to apiculture during the same time and under the same circumstances. The experiments to determine whether bees injure fruit or not, certainly put a quietus to the discussion in so far as grapes are concerned, and have done much to prevent misapprehension on the part of growers who are not bee-keepers, and to harmonize both classes.

Aside from the above, the observations and information contained in Mr. McLain's reports on foul brood, and in experiments looking to the control of fertilization of the queens, are many of them valuable, even though in the latter case he could not finally present any practical method of accomplishing this object.

The apicultural exhibit which I prepared for the Department for the Paris Exposition of 1889, was largely made up of material contributed by individual bee-keepers, and received very favorable notice from foreign bee-experts. In fact, it was rated the best of all the exhibits

in this line. It certainly had much to do with educating foreigners as to the forward part taken by Americans in this industry, notwithstanding the display was hampered by restricted space. The success of the exhibit was largely due to the efforts of Mr. McLain.

In 1890 I felt that the appropriations to the Division of Entomology justified further effort to do something for bee-culture. It was my purpose to continue experimentation more especially in lines which individual efforts could not so well reach, as indicated in the previous work. The conditions around Washington are very unfavorable for this kind of experimentation, and three methods of carrying it on remained. One was, to establish a station controlled and worked entirely by the Department, as had been done under Mr. McLain, previously. Another was to establish a number of sub-stations in different parts of the country, representing different climates, but all under the general management of some one especially in charge here at Washington. The third was to establish one or more stations in connection with some of the State experiment stations created by the Hatch Bill.

After visiting a number of prominent bee-keepers in the South, and considering the matter fully in connection with the limited means to be devoted to the subject, the last of these methods was chosen. Prof. A. J. Cook and Mr. J. H. Larrabee were commissioned early in 1891 to conduct the experiments at the apiary of the Michigan Agricultural College. The results of the work of that year are reported in Bulletin No. 26 of the Division of Entomology. They included a continuation of the earlier experiments, especially planting for honey; observations and experiments in regard to the fertilization of plants by bees; selection in breeding; the amount of honey consumed in the secretion of a pound of wax; the effects on bees of spraying fruit-trees while in blossom; and other minor experiments and observations, some of them a repetition of the work that had previously been performed by others.

There was not much that was original in the apiarian work of the year, and perhaps the most important were the results in reference to the poisoning of bees by arsenical sprays. Moreover, the policy of dual interest in and control of the work at the station was not the most satisfactory as a working policy, because of the difficulty of separating the Department's interests from those of the station, and the feeling which developed on the part of others, and which I could not very well overcome myself, that the funds furnished by the Department were utilized primarily to improve a somewhat neglected apiary, and to add to the income of the station.

Prof. Cook's commission expired June 30, 1891, and Mr. J. H. Larrabee was appointed to continue the work, which he did up to June 30, 1892, when, by virtue of the great reduction in the appropriation for the Division of Entomology for the ensuing fiscal year, all the bee-work had to be abandoned there. Mr. Larrabee's report will soon appear, and will, I think, make a creditable showing for the season, considering the means which he had at command.

Early in 1891 I had considerable correspondence with Mr. Frank Benton, whose interest and work in apiculture you all know, and who had made a personal effort to introduce *Apis dorsata*. The failure of his effort was due to over-exertion and undue exposure, and I have little doubt that, under more favorable circumstances, and with the aid of the Department, the effort would prove successful. I felt that of all men he would be the most desirable agent to employ in the effort to introduce *Apis dorsata*, because of his familiarity with the subject, and his acquaintance with the countries to be visited; but in addition I had some important incidental work that I wished him to do in that connection, namely, the introduction also of certain parasitic forms of injurious insects, and particularly the introduction of the caprifig insect, *Blastophaga psenes*, to colonize in those parts of California where the Smyrna fig is cultivated.

I had made all due arrangements, in consultation with Assistant Secretary Willitts, fully expecting to be able to send Mr. Frank Benton on this proposed trip, and had so economized the appropriation that there was means to do it. Mr. Benton, also, had been led to give up other plans in anticipation of this mission. The project was never carried out, however, for the simple reason that the Secretary finally refused to endorse it. There seems to have been some promise made to the Senator who had charge of the appropriation Bill that no one should be sent abroad, or at least this was the chief reason given for the refusal to carry out my recommendations and wishes. Professor Cook was made aware of these circumstances, and it is consequently somewhat surprising that, in a recent communication to the American Bee Journal (Oct. 13,

1892), he should insinuate that the Entomologist felt no hearty concern for the bee-keepers' interests, and should urge that "all move in solid phalanx upon the *head* of the Department" in order to "gain our desires and rights."

What may be hoped from the introduction of *Apis dorsata* most of you are probably aware of, but I may say that there was some hope that it might be domesticated in our hives like the common *mellifica*, while Mr. Benton thinks that possibly some advantage might be gained by crossing it with that species. On physiological and zoological grounds I have doubts whether this can be done to any advantage, for, while hybridism is feasible with the races of *mellifica* (which, however much they may differ in popular names, are zoologically mere varieties of one and the same species), yet *Apis dorsata* is a sufficiently distinct species, and even if crosses could be obtained between it and *mellifica*, it is questionable whether such crosses would be fertile. Mr. Benton, however, has fully set forth the possibilities in *Gleanings in Bee-Culture* for June 15, 1892, and also in his remarks before this Association, and while the introduction of this species would not be the sole object in sending him abroad, the question of the possible value of this large bee of India is of sufficient importance to justify thorough experimentation and effort.

WHAT THE NATIONAL DEPARTMENT OF AGRICULTURE CAN DO FOR APICULTURE.

So far I have indulged in retrospect, and indicated what the Department has done, or attempted to do. Let me now come to the second part of the subject, viz.: what the National Department of Agriculture can do for apiculture.

What it may accomplish—I sincerely hope this may be much—will depend greatly upon what sums Congress may see fit to appropriate for such investigations, and this will depend in turn, to some degree, upon what representations as to the needs of the industry, and the possible benefits to the material interests of the country, are made to the head of the Department, to the Committees on Agriculture, and to other members of Congress by their constituents. Certain kinds of experimental work can be undertaken by individuals without serious interference with the main work of their apiaries. Indeed, it is desirable that each should experiment in a limited way, for localities differ in respect of climate, flora, etc.; in short, the conditions upon which methods of management depend are so variable that each progressive bee-keeper must study to ascertain by experimentation what methods are best adapted to his own individual surroundings.

But there are certain larger fields of investigation, requiring more time and expenditure than individuals usually have at their command, and the results of which are pretty sure to benefit apiculture, if not directly at least indirectly. For instance, if a species or race of bees could be bred or introduced which, in the early part of the season, when bumble-bees are few in number, would fertilize the red clover, and later in the season do the same work more thoroughly than it is now done, there is no question that we should reap a reward in the larger yield of clover seed, and in this way our pasturage would be very generally improved. So that this would indirectly affect beneficially our stock and dairy interests, to say nothing of a more general employment of red clover as a green manure in the increase of most of our crops. In cases like this the benefit would be general, and so great that the expense of accomplishing it would be insignificant in comparison. Even an experiment which fails, and which would be disastrous to individual participants in it, would not be felt by the general Government, and might serve to point out the way to success in subsequent attempts, for failure often proves very useful in pointing out the directions in which we should not look for anything valuable. Thus, if the Department by ample effort should prove that nothing can be gained in any given direction, it would save further disappointment to individual experimenters, and prevent a repetition of useless effort.

To my mind the character of the work to be undertaken by the Department should be of such a nature as to benefit the industry in all parts of the country alike, and prominent among the subjects which it should undertake is this introduction and testing of foreign races of bees, of which there is much yet to discover, and about which our actual experimental knowledge is limited. The distribution of queen-bees of improved varieties where they would most aid in building up the industry, might be undertaken by the Department wherever it would not interfere with individual effort in this direction. But while the lines for Government action so far as the economic side is concerned, are limited, there is a large and most interesting field for further scientific investigation of the actual life-history of the bee,

of its diseases, and of its relations to plant-lice.

Few of you who do not view the economy of the bee from the purely entomological or scientific stand-point, are aware of the errors that are yet extant in connection with the subject, and are still perpetuated in many of the popular treatises on the bee, and there is no better evidence of the biological questions yet to be decided than the discussions at such gatherings as these, which, as evidenced this afternoon, involve the influence of the bee on the sweets which it gathers. I am satisfied that no thorough investigation under competent direction would fail to elicit most interesting facts, and to settle many disputed points.

In connection with the wintering of bees in the cooler portions of our country, there is much that remains to be investigated. The statistics of the industry have never been properly collected, and could not be, except by some national organization.

These are a few of the directions, gentlemen, in which I feel that the National Department may work advantageously, and if, in dealing with the subject, I have endeavored to indicate in plain words some things which the Department has and has not done, it is in the hope of calling attention publicly to the matter, and of bringing about in the future the action which I feel all bee-keepers desire. C. V. RILEY.

In reply to a question, Dr. Riley said that in the Secretary of Agriculture's report, there was a recommendation to re-organize the Department, and to lessen the number of the Divisions. For this reason he doubted if the plan of asking for the addition of another Division would be looked upon with favor. He also doubted if an experimental apiary could be, or rather *would* be, established at Washington. If we knew how difficult it had been for him to secure what was necessary for him in carrying on the legitimate work of his own special department, he doubted if we would ask for what had been suggested that we ask for. He said that the best thing that bee-keepers could do would be to make friends with the incoming Secretary of Agriculture, and get him interested in bee-culture.

It was decided to retain the committee another year.

Relinquishing Incorporation.

The Secretary read the following communication from Wm. F. Clarke, of Guelph, Ont., Canada:

Fellow Bee-Keepers:

Being unable to attend your annual convention, by reason of distance and cost of the journey, I beg to submit for your consideration, a respectful remonstrance and protest against the action taken by the Association in regard to incorporation.

1. Because the said action was unconstitutional. By virtue of its original Constitution repeatedly re-affirmed, the Association was international. At the outset, both the United States and Canada were contracting parties. By virtue of the incorporation, the international feature of the Association has been dedestroyed, and the body has been converted into a local and State organization.

2. Because the action was taken with undue haste, and without full discussion. At the Keokuk meeting, where the matter was literally rushed through, the attendance was small, comprising but few of the older members, and none at all from the far East. Such an important step might at least have had a year's notice of motion, and full discussion in the bee-periodicals.

3. Because the action was precipitated in the face and teeth of strong objection on the part of the two Canadian delegates, who forwarned the prime movers in the scheme, that those whom they represented would consider the proposed incorporation equivalent to an act of expulsion. The chief promoters of the scheme have since declared that they did not understand that Canadian bee-keepers would regard it as an act of excommunication. It has been demonstrated that the Canadian delegates present at Keokuk were right in their judgment. Their clients assembled at the annual meeting of the Ontario Bee-Keepers' Association in January last, unanimously took this view of the matter.

4. Because the act of incorporation is of no earthly use. It is like the fifth wheel to a carriage, or a second tail to a dog. The only argument in its favor urged by its advocates, has been that it would enable the Association to hold property, sue, and be sued; neither of which it needs or wants to do. It is therefore, literally, a work of supererogation.

5. Because it has caused friction and unpleasant feelings among those who, for a score of years, had worked in harmony. Coming at a time when tariff

and other political irritations were unusually rife between the two countries, it was most unfortunate. Little people are perhaps more sensitive than they need be, but there is a certain degree of self-respect which no Nation can afford to surrender. Even a minority has its rights. It may be that we have "kicked" too vigorously in regard to this matter, and that we have not shown sufficient courtesy to our big brother Jonathan, but it is not easy to be polite when you are put out-of-doors. I have, perhaps, been the chief offender in this respect, and I most humbly withdraw and make apology for any improper utterances and uncharitable imputation of motives with which I may be chargeable. We probably indulge in greater freedom of speech than is common or deemed proper on your side of the lines, but we cherish at heart a kind and cordial feeling toward our fellow bee-keepers in the United States, and sincerely desire to live on terms of peace, good fellowship, and co-operation with them.

For the reasons above given, I would respectfully overture the Association, and earnestly beg of it to re-consider and revoke the act of incorporation, so as to restore the intimate and harmonious relations of past years. As one of the founders of the Association, and one of its oldest members, I think I may fairly claim a kind and indulgent consideration of this appeal.

All of which is respectfully submitted.

WM. F. CLARKE.

E. R. Root—Inasmuch as the proposed change in the National Bee-Keepers' Union, if it goes into effect, will enable the Union to perform the work that was in view for the North American when it was incorporated, and incorporation has caused a little unpleasantness between us and our Canadian brethren, it might be well to give up incorporation; but I would not counsel hasty action. There are not many here. I am the only member present of the original committee who proposed the feature of incorporation. It would only be fair to allow the others to be heard; hence I move that the matter be laid on the table one year, with a recommendation that it be favorably considered at the next meeting. Carried.

Shall the Scope of the Bee-Keepers' Union be Broadened?

An essay had been expected from the General Manager, Thomas G. Newman, on this subject. The Secretary read a letter from Mr. Newman, in which he explained that the press of business had prevented him from preparing an essay. The Secretary also read a "proof" showing the proposed changes in the Constitution of the Union. They would allow the money and influence of the Union to be used for *any* purpose for which the Advisory Board thought it desirable.

E. R. Root—It has been many times shown that an organization of some kind is needed to fight adulteration. To have a separate Union for each kind of work is too expensive. Better have one Union, and a good one.

Upon motion, the proposed change was recommended.

Upon motion, it was decided to pay George W. York & Co., of Chicago, Ills., $20 toward the cost of publishing a report of the proceedings in pamphlet form, as usual. It was also voted to pay the Secretary $50 for his services.

The following officers were elected for the ensuing year:

President—Dr. C. C. Miller, Marengo, Ills.

Vice-President—J. E. Crane, Middlebury, Vt.

Secretary—Frank Benton, Washington, D. C.

Treasurer—George W. York, Chicago, Ills.

Treasurer's Report.

The Treasurer, Mr. Ernest R. Root, then presented the following report:

RECEIPTS.

Cash from former Treasurer	$81.38
Interest on average monthly balance	3.85
Membership fees	25.00
Affiliation fees	30.00
Total	$140.23

DISBURSEMENTS.

To T. G. Newman & Son, amount toward printing proceedings of Albany convention	$20.00
To postage on programmes, as per bill of H. M. Seeley	.50
To W. Z. Hutchinson, for reporting proceedings of Washington convention	50.00
Total	$70.50

RECAPITULATION.

Total receipts	$140.23
Total disbursements	70.50
Cash on hand	$69.73

The report was accepted and approved.

Honorary Members.

Upon motion of Frank Benton, the following were made honorary members:

C.J.H.Gravenhorst, Wilsnack, Prussia.
Samuel Simmins, Newhaven, England.
Cav. Andrea de Rauschenfels, Collecchio (near Parma), Italy.
Harald Hovind, Tredestrand, Norway.
George de Layens, Louye (Eure), France.
Hjalmar Stalhammar, Gothenburg, Sweden.
Karl Gatter, Vienna, Austria.
A. de Zoubareff, St. Petersburg, Russia.
G. P. Kandratieff, Russia.
Charles Dadant, Hamilton, Ills.
*Alfred Neighbour, London, England.
*Edward Cori, Bruex, Bohemia.
Prof. H. W. Wiley, Washington, D. C.

Chicago, Ills., was selected as the place for holding the next meeting; the time of meeting to be left to the Executive Board, but the society recommended the forepart of October as a desir time to meet.

The convention then adjourned.

W. Z. HUTCHINSON, *S*

Review of a Report of Foul Brood Experiments.

Written for the American Bee Journal

BY J. H. LARRABEE.

The *Canadian Bee Journal* of Jan. 1st contains a report by J. J. Mackenzie, the bacteriologist of the Provincial Board of Health, upon the subject of Foul Brood. The experiments were instituted at the suggestion of an Experimental Union, organized in Ontario, Canada, for advancing such work. This report contains some new ideas, and new light is added to many old ones. This is one of the many lines of work where a trained scientist is of more value as an investigator than any bee-keeper could be.

The scientist first isolated and examined microscopically the bacillus of foul brood, and then having determined its character, he reviewed the methods of cure, and tested the values of antiseptics and heat as destroying agents.

He says: "I certainly would not be prepared to spot foul brood in an apiary, though I certainly think I can under the microscope;" thus directly contradicting Mr. C. J. Robinson, who, on page 56 of the AMERICAN BEE JOURNAL for Jan. 12th, states that "a glass cannot aid the eye to distinguish foul brood virus from other germs." Such statements as the latter cannot be weighed against the former, when we consider the sources from which they come.

Mr. Robinson has also promulgated the old theory that foul brood generates spontaneously under certain peculiar (?) conditions. Mr. Mackenzie says, referring to the above theory, "Unfortunately it is a theory which is not supported by the results of investigation." Of course, Mr. Robinson, Mr. McEvoy, Mr. Jno. F. Gates, and our honey-weather prophet—Mr. Sam'l Wilson—and others will not accept such evidence, but I prefer to accept the statements of those who have investigated the subject rather than the *dictum* of those who state it can be done, but who have never, and never will originate foul brood without infection from the disease itself.

There are two common methods by which foul brood is cured or eradicated from an apiary, viz.: 1st, by starvation; 2nd, by the use of disinfectants. The effect of antiseptics, and of hot water upon foul brood germs was quite fully investigated. Prof. Mackenzie succeeded in rearing the foul brood bacillus from a cake of wax into which when melted he had introduced the germ, thus proving that simply melting wax will not destroy the germs in it.

By the use of silk threads saturated with jelly filled a with growth of the bacillusa lvei (which threads were then suspended in wax at the boiling temperature of water), he concluded that "to destroy the foul brood in wax it is necessary to heat to a temperature of at least 194°, F., for at least three hours." If these preliminary conclusions are correct, why is it that the disease is seldom if ever spread by the use of comb foundation? Even Mr. Mackenzie states that he has yet to discover a well-authenticated case where this has occurred.

The methods of scores of lesser foundation-makers are not as thorough as those of Messrs. Dadant, Hunt and Root, and all sorts of wax from unknown localities is made into foundation with-

out ever having been heated to the boiling point, or having remained at that temperature for two or three hours. May it not be that the heating of the wax at two distinct times renders the spores harmless? The wax is melted and "rendered" from the combs and caked, then shipped to the foundation maker who melts it at least once, often more, when dipping into sheets for foundation. Possibly the greater specific gravity of the germs, as suggested, may cause them to settle to the bottom of the wax, where, coming in contact with the water always used in melting, the germ would be very soon destroyed, if Mr. Corneil's theory of dry *vs.* moist heat be true.

I should like the length of vitality of the spores when immersed in boiling water, tested to determine the truth of this theory. Mr. Mackenzie has promised us more light upon several points in consideration of this subject, after another season's work, when doubtless many of these doubtful points will be cleared up.

Referring to the starvation method of cure, as used by Mr. McEvoy and others, Mr. Mackenzie says: "If this is combined with a removal to absolutely clean hives with new foundation, it may succeed; but I must say that absolute cleanliness in this respect must be insisted upon."

That the extreme virulence of the disease is recognized, is apparent from the above statement, which is again repeated in another form in another passage. Without doubt many cases of so-called spontaneous generation could be traced to uncleanness or carelessness in treating the disease.

It was found that the spores of foul brood could not be destroyed by the use of antiseptics of the strength advised by Cheshire and others, but the chemicals prevented the further growth or spread of the disease. May this not be valuable, as teaching us to combine with the starvation method of cure the feeding of medicated syrup to prevent the germination and growth of the spores until the bees can cleanse themselves from all traces of the disease? This was, I think, the method used by Mr. A. I. Root in curing the disease in his apiary.

Prof. Mackenzie considers the possibility that there may be a difference in the power of individual bees to resist the disease. Now it seems to me he is mistaken in thinking that the presence of the germs of the disease in the intestinal canal of mature bees is evidence that the bees themselves are diseased. As I understand it, the disease is of the brood, and the germs are found in mature bees only when carried there in their food, or in the attempt to clean out the filth from the cells, and never affects the blood or organs of the mature bee; hence, these mature bees do not *resist* the disease.

New, and I doubt not effectual, agents for cleansing hives, etc., in connection with hot water, are suggested. They are soft soap and washing soda, in a very strong solution.

While I express the hope that these experiments may be continued under the same competent worker, I cannot but regret that these United States of America cannot do as much as is Canada, for her bee-keeping interests; and that we cannot send a bacteriologist, chemist, botanist, and other scientists to the apiary, hand in hand with the practical bee-keeper, there to work out together these many problems waiting to be solved.

Larrabee's Point, Vt.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Bees All Right in the Cellar.

My bees are all right in the cellar. I am 73 years old, and like bee-keeping as well as ever. My bees did very well last summer. D. P. SHIGLEY.

Mankato, Minn., Jan. 31, 1893.

Seem to be Wintering Well.

We have had a cold winter here up to this time. My bees are wintering on the summer stands, and seem to be doing very well. There was very little swarming the past season, but the hives were full of bees in the fall, and they looked large, plump, and healthy. I like to read the reports from the brethren in the BEE JOURNAL. J. T. HIGGINS.

Bethany, Mo., Feb. 4, 1893.

Can Always Tell their Experience.

I imagine a number of the correspondents of the BEE JOURNAL belong to a certain church of whom it is said, "You can never stick them; for when they have nothing else to say, they can always fall back on their experience." Lighthouses and buoys are to keep mariners from stranding, so the experience of veterans in bee-culture are as beacon lights to the amateurs.

I was pleased to read in the BEE JOURNAL that Mrs. Jennie Atchley was going to give advice to beginners. We are watching and waiting, and possibly the beginners of to-day may be the veterans of the future.

My average, during the past season, was 50 pounds per colony, with ample stores left to winter on. So much for a poor season, without any white clover.

HORATIO N. SCRATCH.

Kingsville, Ont., Jan. 24, 1893.

[You will notice that Mrs. Atchley commences her advice to beginners in this issue of the BEE JOURNAL.—ED.]

Bees Wintering Well—Cold Weather.

It is 35° below zero this a.m., with about 18 inches of snow. It is 40° above zero in my bee-cellar. Bees seem to be wintering well so far.

C. THEILMANN.

Theilmanton, Minn., Feb. 4, 1893.

Prospects Were Never Better.

Prospects for a good season were never better in this part of the State. Almond and peach trees are just commencing to bloom. L. L. JACKSON.

Soledad, Calif., Jan. 29, 1883.

Nova Scotia Bee-Keepers' Convention.

Of late considerable interest has been shown in the advancement of bee-culture in Nova Scotia, and as this industry is of quite a strong growth in Kings county, it was thought advisable to call those interested together to see what could be done to forward the advancement of the industry. A number of those interested met at the American House, in Wolfville, on Jan. 5th, and from the strong interest shown, a bee-convention was formed, being the only one at present in Nova Scotia. The convention was not confined to Kings county alone, but thrown open to Nova Scotia.

J. B. Davison, of Wolfville, was chosen President; Chas. R. Pineo, of Chipman Corner, Vice-President; E. C. Johnson, of Wolfville, 2nd Vice-President; E. F. Beeler, of Berwick, Secretary and Treasurer.

The association starts with a good, strong membership. The time was well taken up by several of the members in showing the advantages and benefits to be derived from the culture of bees, and it is expected that when the convention meets again in March, that the session will be of much interest to bee-keepers.

Berwick, N. S. E. F. BEELER, *Sec.*

Reports from Minnesota.

Bees are wintering finely so far. They have good white honey to "go it" on, and if they do not make a "go" of it, it will be for some other cause besides the honey. I saw a statement last spring from Wisconsin, saying it was a wonderment to him how the bees in Minnesota could get enough to live on. Mr. "Wis.," we are near neighbors, and as I have lived in Wisconsin, I would say that Minnesota compares well to her neighbors in the production of honey, as well as everything else for this latitude.

I have 43 colonies wintering, but got no honey to speak of in 1892. The cold, wet weather in early spring was the cause of it.

I will give the statement of my bee-friend, Mr. O. H. Curtis, to show that Minnesota gets a "lick" once in a while. Mr. C. had 4 colonies of the 5-banded bees, and one colony of the 3-banded variety. From the 5, spring count, he increased to 13, and obtained 800 pounds of honey in one-pound sections, all white as could be. The hives were well supplied with honey for winter. He thought the 3-banded colony "got there" in a little the best shape.

M. S. SNOW.

Osakis, Minn., Jan. 28, 1893.

Doolittle's Queen-Rearing book should be in the library of every bee-keeper; and in the way we offer to to give it, there is no reason now why every one may not possess a copy of it. Send us one new subscriber for a year, and we will mail the book to you bound in paper, as a present.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

56 FIFTH AVENUE, CHICAGO, ILLS.

Special Notices.

The Date on the wrapper-label of this paper indicates the *end* of the month to which you have paid for the JOURNAL. If that is past, please send us one dollar to pay for another year. This shows that Mr. Porter has paid his subscription up to the *end* of December, 1893 :

Wallace Porter Dec93
Suffield, Portage co, Ohio

"Bees and Honey"—see page 197.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.
J. A. LAMON. 44 & 46 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & CO., 14 & 16 Hennepin Avenue

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Read our great offer on page 197.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, February 11th, 1893 :

CHICAGO, ILL.—There are occasional sales of best grades of comb honey, but the retailers are not yet sold out on supply laid in before the holidays. Prices are a little easier, especially on that which will not grade "fancy"—such brings 17@18c., and other grades 12@16c. Extracted, 6@9c., as to quality.
Beeswax—22@25c. R. A. B. & Co.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It selis readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½ ; dark, 6@7c. Beeswax—23@25c. J. A. L.

CINCINNATI, OHIO.—Demand from manufacturers is slow, but the demand is good for extracted for family use. It brings 6@8c.—No good comb is on our market. It would bring 14@16c.
Beeswax—Demand good at 23@25c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand. B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

ALBANY, N. Y.—Our honey market is slow on account of cold weather, but our stock was never so light as now. We have less than 50 cases of honey on hand, and only one barrel of extracted; when usually we have 1,000 cases in stock. For honey not granulated in comb, we quote: White (small), 15@18c.; mixed 13@14c.; dark, 10@11c. Large comb and double glass sell for 1 to 2c. less per lb. Extracted, white, 8½@9c.; amber, 7¼@8c.; buckwheat, 7@7¼c. H. R. W.

Great Premium on page 197!

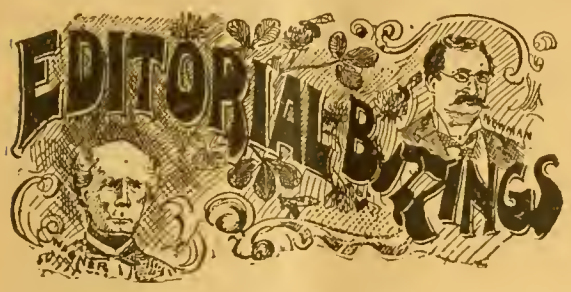
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., FEBRUARY 23, 1893. NO. 8.



To Wisconsin Bee-Keepers.—We have received the following from Mr. Franklin Wilcox, of Mauston, Wis., which will interest every honey-producer in that State:

MAUSTON, Wis., Feb. 13, 1893.

If the Wisconsin bee-keepers desire an exhibit of honey from this State, they must speak very soon. As I understand it, they must decide what they will exhibit, and report to me before March 1st, if they wish to get their names in the Directory as exhibitors. I have been asked to collect, prepare and arrange the State exhibit. I think it very doubtful if individuals can get space to exhibit independent of the State exhibit.

I want all who have any choice honey or beeswax, to report to me *at once*, just what they have. All expense of collecting, transporting and arranging exhibits will be paid out of the State appropriation. Exhibitors furnish the honey and wax. FRANKLIN WILCOX.

There is indeed no time for delay in this matter. Let there be a prompt response to Mr. Wilcox's appeal, so that he may be able to make a creditable display for Wisconsin bee-keepers.

"Bees and Honey"—see page 229.

Final Statements, even on the sugar-honey subject, must come sometime, and we think it is best to let them cease with this number, so far as the AMERICAN BEE JOURNAL is concerned, unless absolutely necessary to refer to the matter again. Here is Dr. Miller's reply to our editorial of last week:

I will not ask the space to reply in full to your editorial in last number, but will make some effort to be brief, replying only to part of what seems to call for reply. Allow me first of all to acknowledge with pleasure the good-natured spirit your have shown toward myself personally, even in your hardest thrusts. There is something always to admire in an open foe, and when good-nature is joined to that openness, it's hard to draw the liue between foe and friend. Now I'm going to spoil that compliment by saying, if in this case you were only as reasonable as good-natured—but then we're none of us perfect.

You say: "If bee-keepers can conscientiously feed sugar to bees to be stored in combs, and then sell it for honey, may they not almost as consistently mix glucose with extracted honey, and sell it for pure honey? It differs mainly in appearance—the results are about the same." Friend York, please put that paragraph in some safe place, and in the year 1903 (that will be ten years from now, and I hope you'll be editor of AMERICAN BEE JOURNAL long after that)—in 1903 read it over, and see if you don't feel inclined to think it was written during a fit of temporary aberration. In the first place, *mixing* and *feeding* are two very different things. The books tell us that the cane-sugar of nectar *fed* to the bees becomes honey, but we know that cane sugar

mixed with honey does not become honey. In the second place, sugar and glucose are not the same, so that even if it could be proven right to *mix* sugar with honey, that doesn't prove that it would be right to thus mix *glucose.*

You say: "It differs mainly in appearance." Does it? If there were placed before me two bottles, one containing pure honey and the other glucose and honey, half and half, I'm sure I could not be certain from the "appearance" which was pure, and I don't believe you could. But I think I could tell a decided difference in the taste, if one bottle contained a mixture of glucose and honey, and the other a mixture of cane sugar and honey, even if the bees had nothing to do with the latter. Indeed to prove that there is a difference, it is only necessary to quote the words of your editorial, "Good testimonies say that bees don't like glucose in their honey any more than do people." And we know that bees do like sugar. So that sentence, "It differs mainly in appearance—the results are about the same," is entirely correct if we make some slight verbal changes, so as to make it read, "It differs not at all in appearance—the results are widely different."*

You ask, "Because they honestly believed that bees make honey out of sugar, does that make it so?" I'll give you a categorical answer—No. But it makes a world of difference as to their criminality in the case whether they honestly believed it or not.

Now let's see if we can't get down to bed-rock. I am sorry that you did not say in just so many words what was the direct charge, but I think it may be prettly clearly inferred from your saying, "The question is not whether bees *make* honey or not, but whether the *publishing* of the suggestion of feeding sugar to bees for the production of honey will not result in untold danger to floral honey production." Not stopping to consider a certain inconsistency that may be lurking in those words, and putting the matter in just as few words as possible, confining it to a single case, I think you and I would agree that the charge is this: Prof. Cook gave it out as his opinion that it would be a good thing to feed bees sugar for them to store as surplus.

Now if that's the charge, then we have something definite to talk about, and if it isn't the correct charge, then you say what is the charge, for I am not trying to make the charge, only for the sake of saving time trying to put it into specific form. You say, "It is another mistake for any one to say that *we* expect them to state anything contrary to their honest convictions." Good. Now you're talking reasonably, and we may yet see eye to eye. The accused thought it would be a good thing to feed sugar for surplus. That was his honest conviction, and you don't expect him to state anything contrary to it. Furthermore he gave out or published that opinion. But it was his honest conviction that it would be for the good of beekeepers to publish what he believed to be the truth, and you don't want him to state anything contrary to that honest conviction.

Now there's the whole thing in a nutshell. He honestly said what he honestly believed, and he cannot honestly say he is sorry he believed what he thought was truth, nor that he is sorry he said what he honestly believed would do good.

But you intimate that he might make "a manly expression of regret that a stupendous mistake had been made." Yes, he might do that. But you would not publish it if he did. For it would be something like this, "I regret exceedingly, more than I can well express in words, that my friends York and Miller are so blinded by prejudice that"—but about that time you'd stop him, and tell him that you wanted him to regret what he had himself said. But he'd tell you that he could hardly regret having said the truth, and then he'd commence to try to convince you that he was correct in his belief, but you would tell him you didn't want that discussed. But he would tell you that you are allowing it to be discussed, and would point you to page 179, and ask you whether J. F. Latham's article did not discuss it, as also the article of Dr. McKinney, on page 181, where, under the pretense of not discussing it, he asks "permission to make a few plain statements." Would it not be entirely in order for Prof. Cook to "make a few plain statements" in reply? No, you don't want him to, and I don't want him to; neither do I want to see the other side discussed with no chance for reply.

In regard to that $50 and $100 which is labeled "A Challenge," I think if you will go out to—where is it, Hawthorne, or Garfield Park?—the sports will tell you that's a plain bet, and I don't think you'll find Prof. Cook a "taker." I don't think he ever gambles.

It would be entirely like Prof. Cook to think, "Well, if I had known how it would be received, I doubt if I would

have wasted my breath or ink, and I wish the thing had never come up;" and you and I can heartily second the wish, but you'll not get any such expression out of him by pounding him. I'm sure you wouldn't out of me. "No, not upon compulsion, not if regrets were as thick as blackberries," to paraphrase the words of Falstaff. No, I'd see you—I was going to say I'd see you hanged first; but I don't know that I would, for with all your "mulishness" I think lots of you, and would do almost anything to save your neck from the halter.

Heigh-ho! this is brevity with a vengeance, isn't it? But really and truly I did mean to be brief, and I've left untouched several spots where I thought I could get in a good "lick" at you. But I think I'll agree not to take up any more space on the subject, and will leave you the closing argument, unless indeed I've been arguing on the wrong charge.

If regrets will do any good, I regret with all my heart that the subject ever came up at all, and although it might not be best to say so publicly, I'll just whisper in your private ear that I believe the quicker you and I "shut up" the better. C. C. MILLER.

*A word in explanation of the sentence—"It differs mainly in appearance—the results are about the same." Dr. Miller did not get our intended meaning, which was this: We did not have reference to the looks or "appearance" of the "honey" and mixture, but had in mind the two *acts*—one of transferring sugar into combs by bees, and the other of mixing glucose with extracted honey. Also, what we meant by saying "the results are about the same," was that customers would so consider it.

As said in our introduction to the above reply by Dr. Miller, we think this matter has been ventilated quite enough for the present. We have endeavored to do and say in reference to it just what we sincerely thought was our duty to all concerned. We may have been pretty severe in our condemnation, but we felt the case demanded it, and we think that the great majority of our readers will approve our course. No one could possibly regret more than ourselves the seeming necessity for the use of strong language in treating the subject of sugar-honey production. What we have "writ," we have "writ," however, and are now quite willing to leave to the future the final decision upon the question.

We are also pleased to let Dr. Miller have the "last word," rather than to reply again as we should like to do, but which would tend to continue the unprofitable questioning and commenting. No one can mistake the position of the AMERICAN BEE JOURNAL upon this or any other subject, and so long as we may be permitted to control this publication we propose to stick to our clear-cut motto—"Do right and fear no one"—doing our duty and the right as God may give us to see that duty and that right.

Mr. John H. Martin, *Gleanings'* notorious "Rambler"—Secretary of the California State Bee-Keepers' Association, has sent us an interesting report of the meeting of that association held in Los Angeles on Feb. 7th and 8th. The attendance was large, and they had "a very profitable season." We will publish the report later.

Bees Not Taxable in Iowa.—Mr. O. L. Packard, of Sac City, Iowa, wrote us as follows recently, desiring to know whether or not bees are taxable in the State of Iowa:

I want to ask if bees are taxable property in Iowa. The supervisors of this county for the last three years have them assessed at $2.00 (per colony) for all over 6 colonies. Several of us have refused to pay the tax, and the question has been referred to the Attorney General by our County Auditor, and by the member of the State Legislature from this District, and to neither one has he given an answer as yet.

This year they have agreed to assess them $1.00 per colony, and we don't want to pay even that, as chickens, turkeys, etc., are not assessed, and there are thousands of dollars worth of them shipped out of the county every year, and I guess never a pound of honey. Will you please refer this ques-

tion to Mr. Eugene Secor, for reply in the AMERICAN BEE JOURNAL?

If bees are assessable, how are they classed? There is nothing assessed in the State over six months old, and there is no certainty that we have even one bee in the hive over that age.

O. L. PACKARD.

As requested, Hon. Eugene Secor, of Forest City, Iowa, replies thus:

I answered quite fully on page 666 of the BEE JOURNAL for 1889, a question very similar to the one propounded by Mr. Packard. I think it would fully satisfy him that bees are not taxable in Iowa. It seems strange to me that assessors and other officers having in charge the listing of property for taxation and collection of the county revenues, should fail to understand the meaning of a statute so plain in its provisions.

Section 797 of chapter one, Title VI, of the Code gives a list of exemptions for the guidance of assessors. After enumerating various classes of property to be omitted from the assessment rolls, it says in paragraph 4 of said section, "*Animals not hereafter specified.*"

Section 801 specifies the animals to be listed—"horses, cattle, mules, asses, sheep, swine."

Perhaps it is the words "all other property" in the same section which puzzles them. But they should not, because bees are "animals." See definition in Webster's latest unabridged dictionary. Geese, turkeys, ducks, chickens and pigeons are not taxed. Why? Because they are exempt by the same statute quoted first above—"Animals not hereafter specified."

Under that statute, a man may invest $1,000 in poultry, and it would not be taxable. A good many people are doing it, too.

I am not saying that such exemptions are wise, but there can be no question, it seems to me, that the letter of the law is, and the intention of its framers was, to exempt all these smaller animals.

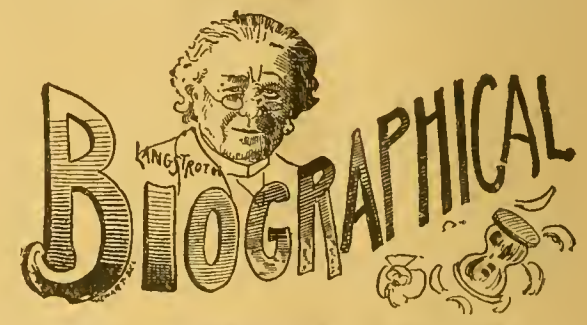
The merchantable products of the poultry yards of this State are a thousand-fold more than the apicultural, but I have never known an assessor who insisted on listing my chickens, either as "animals" or "other taxable property."

If the assessor insists on listing bees, you can safely say to him that you have only one bee in each hive "over six months old" on the first of January. I do not pay taxes on my bees, and do not purpose to, until the law compels me.

I would not object to such a law, but when bees are taxed, poultry should be.

EUGENE SECOR.

Local Checks.—Please do not send us checks on local banks. We have to pay from 15 to 25 cents each to get them cashed here, which is quite a useless expense, when you can either send money by registered letter, or get an express or post-office Money Order. We *prefer* the express Money Order, if you can get that; otherwise the post-office Money Order or registered letter.



CHAS. F. MUTH.

Bro. Root, in *Gleanings* for June, 1883, wrote as follows concerning our friend Muth:

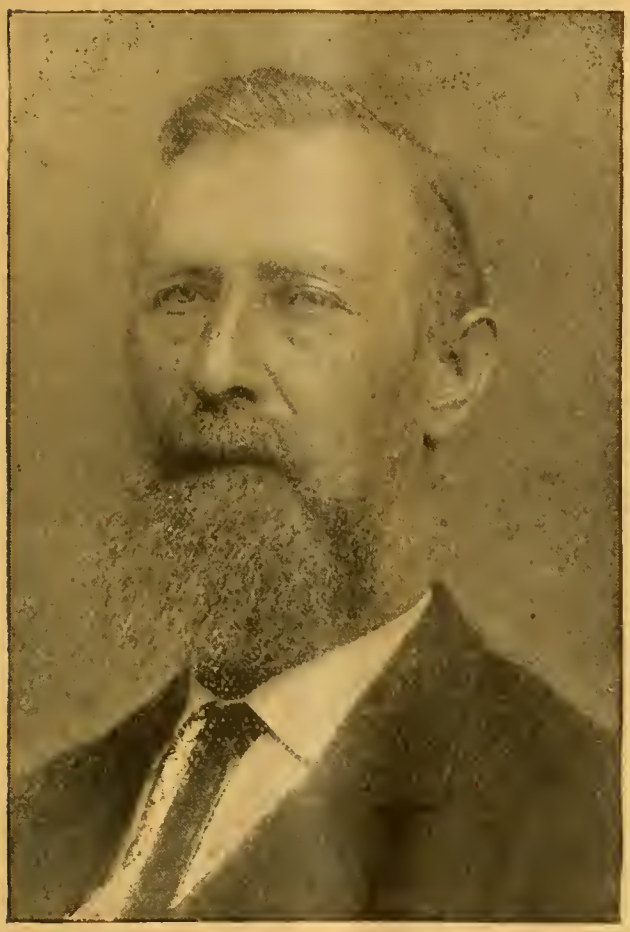
Charles F. Muth is one of our veterans in bee-culture. Years ago, when we first began to talk about movable-frame hives and Italian bees, he was one among us, and a man always posted. Of late years he has been pretty well known by his articles on the treatment of foul brood; and as he succeeds in curing it in his own apiary, we think it fair to presume he would in any apiary, if he had proper facilities. Although for many years friend Muth's apiary was on the roof of his store, or, rather store and dwelling, it is now situated in a sort of open veranda, the open side being next to the river. Through this open side the bees go out and in. The hives are placed a convenient distance from the floor, and arranged with alleys between them.

Although he has some 30 or 40 colonies grouped together quite closely, they seem to go out and in, and find their respective hives just as well, for aught we could see, as those located in

the open air. The bees we saw there in 1882 were beautifully marked, and very docile.

He has, of late years, been more widely known as a great honey buyer, than as a producer of honey on a large scale. Perhaps no man in the world has bought and sold more honey than he has; and one very pleasant thing about it is, that in all these large business transactions, all his customers seem to be warm personal friends.

While at the convention last fall, the subject of the palmetto honey of the



CHAS. F. MUTH.

South came up. Friend Muth was called upon to tell what he knew about it. In order to impress upon us that the honey was of excellent quality, he made the remark that on one shipment which he had engaged for 8 cents a pound, he afterward paid the man 10, because it went so much beyond his expectations. At this point Prof. Cook arose and interrupted him.

"Friend Muth," said he, "I wish to ask just one question right here."

"Very well, go on," said our jovial friend.

"I want to know," said friend Cook, "if the convention are to understand that this is the kind of a man you are."

"It is the kind of a man I was *that* time," was the prompt reply. And we really believe that that *is* the kind of a man friend M. has always been, and we trust always will be.

We may say further that Messrs. Chas. F. Muth & Son have been for 33 years in the honey trade, and in the hundreds of thousands of pounds of honey they have handled, not a single instance can be produced where an ounce of adulteration was found. Their goods have always been labeled pure, and are sold under a positive guarantee, or no sale. The foundation of this now widely known business dates back to 1860, when it was begun in a modest way by Mr. Chas. F. Muth, who, ever since, has contined to direct its annually widening interests.

In 1886, his son, Mr. Aug. J., was taken into partnership, and under this style of firm name it has since been conducted.

The succeeding paragraphs were recently published in a paper in Cincinnati, the home of Messrs. Muth & Son, and show what this firm has accomplished:

As honey merchauts, the firm is celebrated throughout the length and breadth of the country, and ship their product into every State, and draw for their supplies on nearly all the States and Territories in the Union. While a large portion of their trade is naturally with wholesale grocers, confectioners, tobacconists, other manufacturers and caterers, they also do a large business in the sale of beeswax to manufacturing establishments, the hardware trade and others. Tons of beeswax they manufacture in comb foundation annually.

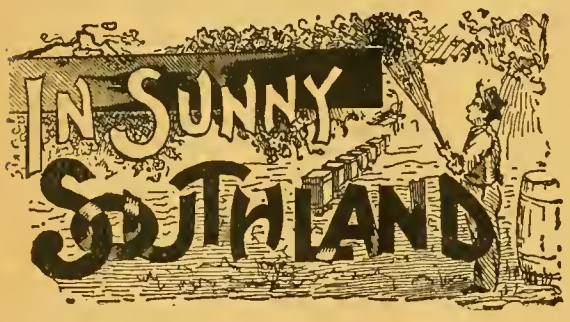
No man engaged in apiculture is better posted than Mr. Chas. F. Muth. He has made honey and its production a life-long study. His Indiana farm, utilized for bee-culture and for stock-raising purposes, comprises an area of nearly 600 acres, occupies one-third of his time, and is in a perfect state of cultivation. It is located in close proximity to Indianapolis, and is said to be a model of progressive ideas, with regard to these branches of agriculture.

This, however, is far from being the sole source of supply. The firm buy

direct all available honey stocks in all sections of the country, besides making large importations from Cuba, whenever stocks in America seem insufficient. Buyers have long since learned that they can place implicit confidence in all goods bearing the firm's trade mark.

The trade in pure honey is becoming larger every year. Its wholesomeness and nutritious qualities commend it instead of syrups and other adulterated products. Consumers find the proof verified. The more honey in a family the less medicine. Messrs. Muth & Son fill car-load orders of honey very often.

Such a far-reaching and growing demand has been fully earned and deserved. When this firm entered the trade, over 30 years ago, there was neither system nor profit in apiculture. They have been actively identified with putting a system to honey-production and bringing the business up to a recognized commercial standing, and they are now reaping the reward of hard, practical study and enterprise.



CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Our School in Bee-Keeping.

Now let all pay close attention. I am going to show you how to divide your bees, or swarm them, as some call it; then further on we will learn how to Italianize and to extract, and, in fact, we will go through all that we can think of; but let us take each subject by itself, and we will learn faster.

I know you want increase, but we will not go into extremes on any line, but I will run your bees for a moderate increase, and to get some honey, too, as I think you will be better pleased, as some go wild on increasing their bees, and go too far, and fail, and get no honey. We usually find such in the "blasted hopes" column sooner or later. I do not wish a single one of my class to fail, so I am going to carry you over on the safest bridge I know of. Now, attention all, while we divide the bees.

SECOND LESSON—DIVIDING COLONIES.

I will only give you my best way to divide, and where we do not wish to divide but once. We will suppose that the bees are gathering at least honey enough for daily supply, and that the hive is chock-full of bees. Now bring on the new hive, with its frames filled with foundation, lift out the combs until you find the queen, then hang the frame of bees with the queen on it in the new hive, and one more with it; shake enough of the bees off of the other combs in front, or into the new hive to make a rousing colony, then fill it up with frames of foundation, and place it on the old stand, carry the old hive off to a new location, and put in the places where you took out the two frames of bees for the swarm, frames filled with foundation, though the bees will not use them until they recruit, but they will be there ready.

Some make colonies this way, except they do not shake any bees into the new hive, and let all the old field workers make up the colony by returning, when they leave the old hive and return to the new one. This is wrong, and the reason I shake what bees I wish with it at once is to get both young and old bees the same as a natural swarm, and for me they work off as nicely as any natural swarm I ever had. But when you only let the old bees form the colony, you deprive the hive of its active inside workers, and throw it out of natural channels, and then if a honey-flow sets in, the old bees disappear too quickly, or before a new crop of bees comes in, and the hive is at a stand-still, or on a downhill course until the young workers get ready for the field. But this state of things is remedied by shaking, as stated, and the new colony will at once assume a natural course, and work just as well as any swarm; while the old colony will not work at all for three or four days, or at least not much, and should be looked after about stores, until it has a working force.

Now the old colony will start queen-cells, and after they have all their brood capped, open the hive and take out all the queen-cells but one of the nicest ones, and then you have no after-swarming, and the reason that I want you to wait until the brood is all sealed is, then the bees have no chance to start more cells and swarm in spite of you, and then this would cause an inferior queen

in the hive, should it swarm, as the larva would be too old that they made the queen from.

Should the cell you leave them fail, from any cause, to hatch, then swap one frame with the new colony, and give a frame of brood and eggs, that they may have a chance to rear another queen. Or should the queen get lost on her bridal trip, or fail to lay from any cause, take her out and give the bees a chance to rear a good one; or if you do not wish to wait, send to a queen-breeder and get one. In short, if you are going to make a bee-keeper, you will not let the colony perish.

PREPARING FOR THE HONEY-FLOW.

Now as we have our bees divided and working nicely, we will begin to prepare them for the honey-flow. If the harvest comes on soon after the division, the new colony will need sections first, as we will produce comb honey first, then try extracted.

When the bees seem to be gathering more honey than they need for brood-rearing, or when we see the tops of combs with white specks on the them, this is a sign that they are beginning to gather a surplus. Now bring the sections, filled with the thinnest foundation you can get (and when I say "filled," I mean to have it fastened at the top of the section, and lack one-fourth of an inch of touching it any where else). The reason I want them filled is from a common-sense standpoint, that if a slice of a watermelon is good, a whole melon is "gooder." Why? Just because there is more it. I have found that it paid me to fill the section with foundation.

At first we will only put on one tier of sections, and when the bees get well started on them, we will, if honey still comes in, and the general prospects warrant it, put on another crate, by lifting up the first crate, and placing a new one under it. I usually leave a partly-filled section in the lower crate, swapped with one out of the second crate; this serves for a bait, or for a string of bees clear from the top of the brood-nest to the upper crate, as the bees will at once cluster where the honey is; but this is not so very important, as they soon go to work and fill up the empty space as soon as possible, any way.

As soon as the old colony needs sections, we will give them in the same manner. We will not discuss any particular hive or crate, but will be expected to use those that some of our most extensive and successful honey-producers use, as they are sure to use the best.

(Continued next week.)

Queenless Colony in Winter.

MRS. ATCHLEY:—I have a queenless colony, I am sure, because I found their queen dead at the entrance. We have had zero weather here since long before Christmas, and it is very cold yet, and it would be a loss to send a queen at this season. Do you think these bees will rear a queen in cold weather? If they do, it will be hard to introduce one in March or April, or when they can fly, will it not? I know they have brood now. What is the best way to manage such colonies? A reply through the AMERICAN BEE JOURNAL will do.

L. D.

Bishop Hill, Ills., Jan. 30, 1893.

FRIEND L. D.:—Your finding a dead queen in front of the hive is not conclusive evidence that the hive is queenless. There are hives that have two queens pretty often—one very old, and a young queen—and they sometimes go into winter with two queens, and during cold weather the old one may die or be destroyed, and the young one lay right along as though nothing had happened. I rather think you have a case of this kind, as you say you are sure they have brood. Here in the South, we often have what we term "pauper swarms," that come out of their hives on warm days in winter, and enter other hives, and of course one of the queens is killed.

But in case your colony is queenless, and they have brood as you say, they will rear a queen just the same as at any other time of the year; but she may not have a chance to mate, and of course will be useless only to keep the colony pacified until you can give them a queen, or a frame of eggs and brood in the spring. Should they rear a queen, just let her alone in the hive until you get ready to introduce one in the spring, or give them brood, and at the time of giving a queen or brood, take out the worthless queen, and all will go well. In fact, one of the best ways to introduce a queen, is to remove the old and put in the new queen at one and the same operation.

Have You Read that wonderful book Premium offer on page 197?

Value of a Good Colony in Fall and in Spring.

Query 859.—What is a good average colony of bees worth in November, and also in the spring? I allude to bees in box-hives only, as those who have frame hives seldom want to sell their bees.—Tennessee.

I do not know.—M. MAHIN.

About $1.00.—WILL M. BARNUM.

From one to two dollars.—J. P. H. BROWN.

That depends upon your pocket-book and longing to buy.—DADANT & SON.

I have bought them for one to two dollars, in the spring.—JAS. A. STONE.

Locality, demand, and circumstances will govern in such cases.—H. D. CUTTING.

Nothing in the fall, and $2.00 in the spring; that is, in my locality.—J. E. POND.

In November, $2.50, and $3.50 in the spring, for Italians.—MRS. L. HARRISON.

Here, in box-hives, in November, $2.00 to $3.00; May, $3.00 to $4.00.—J. H. LARRABEE.

It is impossible to name a uniform price, as their value depends upon the location.—P. H. ELWOOD.

In this locality, $1.00 to $1.50 in November, and $1.50 to $3.00 the first of April.—J. M. HAMBAUGH.

Two dollars in the fall, $3.00 in the spring, would be a fair price for bees in such hives.—G. M. DOOLITTLE.

I should say $3.00 to $4.00 in the fall, and $5.00 to $6.00 in the spring, according to strength.—G. L. TINKER.

Circumstances vary so much that there is no rule. What's the going price in your neighborhood?—C. C. MILLER.

In fall, $3.00; in spring, $5.00, if they are strong and vigorous in both cases. Of course, prices vary with the locality.—A. J. COOK.

The market price. If there is no market price established, then all you can get for them from an ordinarily shrewd man.—R. L. TAYLOR.

I should be a poor judge of what they should be worth in your locality. Here I would say 50 per cent. less in fall than in spring.—EUGENE SECOR.

That depends upon supply and demand. Bees in box-hives are worth less the price of the frame hive and cost of work to transfer them into frames.—E. FRANCE.

It must necessarily depend upon the supply and demand, as there is no "corner" on bees. I used to buy bees in box-hives for $2.50 to $3.00 per colony.—G. W. DEMAREE.

I should say $3.00 in the fall, and $4.00 in the spring. This may seem a high price to some, but in comparison with other live stock I consider it very low.—C. H. DIBBERN.

It would be hard to set a price unless acquainted with the surroundings; so much depends upon pasturage, price of honey, etc. Here, good colonies in the spring, in box-hives, would be worth $2.50 to $3.00.—S. I. FREEBORN.

I don't know what bees would bring in Tennessee, but in most places the price in box-hives would range from $2.00 to $5.00 in the fall, and from $5.00 to $8.00 in the spring, depending upon location, supply and demand.——MRS. J. N. HEATER.

You ought to know what bees are worth to you better than I can tell you. Add $1.00 to the value of the frame hive, and the sum will be the difference in value of 2 colonies of the same kind of bees, of the same strength, one in frame, the other in box-hive, provided the frame hive has straight, all-worker combs.—JAMES A. GREEN.

As supply and demand usually rule the price of nearly every thing, I should think $2.50 about the price of a good colony of black bees in a box-hive in November, and $3.00 in the spring, before swarming time. They are sold here for all sorts of prices. Willie (my son), a few days ago, bought 13 colonies, in boxes, for $13, and has taken out $25 worth of nice chunk honey, and transferred them, and still left them plenty to winter on.—MRS. JENNIE ATCHLEY.

Report of the Illinois State Bee-Keepers' Convention.

Written for the American Bee Journal

BY JAS. A. STONE.

The 4th semi-annual meeting of the Illinois State Bee-Keepers' Association met in the Senate Judiciary Room of the Senate House at Springfield, Ills., on Dec. 14, 1892, at 10 a.m., for a two days' session, with President J. M. Hambaugh in the chair. The meeting was opened with prayer by Rev. T. D. Logan, of the 1st Presbyterian Church of Springfield.

The minutes of the last meeting were read and approved.

The following members paid their annual fees for 1893 :

J. M. Hambaugh, Spring.
C. P. Dadant, Hamilton.
Chas. Dadant, Hamilton.
A. N. Draper, Upper Alton.
S. N. Black, Clayton.
Geo. E. Robbins, Mechanicsburg.
P. J. England; Fancy Prairie.
Jas. A. Stone, Bradfordton.
D. D. Cooper, Sherman.
W. J. Finch, Jr., Springfield.
Geo. Poindexter, Kenney.
Chas. Becker, Pleasant Plains.
A. Phelps, Springfield.
Elias Robinson, Carmi.
C. V. Mann, Riverton.
Jas. Poindexter, Bloomington.
A. W. Spracklen, Cowden.
J. Q. Smith, President Central Illinois Bee-Keepers' Association, Lincoln.
Jas. Forncrook, Watertown, Wis.

The following sent in their fees by mail just before or after the meeting :

Peter Blunier, Roanoke.
M. Bevier, Bradford.
E. T. Flanagan, Belleville.
Aaron Coppin, Wenona.

Advancing Bee-Interests—Caring for Honey.

Remarks on "How to Advance the Interests of Bee-Culture," and "How to Care for Honey," brought out some good thoughts.

Mr. Robbins said that honey, whether comb or extracted, if properly cared for, would grow better by age. He waited for his honey to be sealed before extracting.

Mr. Becker never waited for his bees to seal or cap the cells before he began to extract, and he never had any to spoil. He did not approve of too small a package for extracted honey; while Mr. Robbins thought we ought to have very small packages for it.

Mr. Dadant said the sealing of honey had nothing to do with the ripening of it, and that the package ought to be larger when honey was cheap, and smaller when it was high. He said the time was coming when honey would be as common as butter.

Mr. Finch said that when a trade in honey is established, it can be sold in small packages.

Mr. Dadant said that it only takes five or six days to ripen honey.

Mr. Hambaugh said the consumer will buy it in whatever shape it is put up. He compels his buyers to furnish the cans to put the honey into. He thought the amount of the blooms had nothing to do with the flow of honey. It was the conditions of the weather which caused the blooms to furnish honey, or not to furnish it.

Mr. Black thought there ought to be a large package for wholesale, and a small one for retail trade.

On motion, a committee of three was appointed to confer with the other associations in session in the State House, in regard to a union meeting at night. The committee were Chas. Dadant, Jas. Poindexter, and S. N. Black.

Adjourned until 1:30 p.m.

AFTERNOON SESSION.

At 1:30 p.m. the meeting was called to order with President Hambaugh in the chair. The President's address, which will be published in full in our next Report, was highly applauded.

On motion of Mr. Becker, a committee of five was appointed for a legislative committee to recommended legislative measures, and report the following morning. The committee were, C. P. Dadant, Jas. A. Stone, Chas. Becker, Geo. S. Robbins and Geo. Poindexter.

The Secretary's report was then read, received and placed on file.

On motion, the further distribution of

the Reports of 1892 was left to the discretion of the Secretary.

The committee on programme for the evening, made a report, which was accepted, that the other associations had all adjourned until the next day, and that they had left an invitation with the chief janitor, that any further attendants upon any of the associations, be invited to attend our meeting.

Empty Combs and Extracted Honey Packages.

An essay was then read by P. J. England, on "Empty Combs and Packages for Extracted Honey," which will be published in full in the Report.

In the discussions which followed Mr. England's essay, there was quite a difference of opinion in regard to drumming the bees out of the old hives, some claiming they could not do it, while others spoke of it as a matter of no difficulty.

Mr. Robbins never would drum bees out of old comb until about swarming time.

Mr. Becker would drum bees out, taking care to save all the brood.

Mr. Dadant would take great care in saving all the brood, when drumming out of old hives.

Mr. Hambaugh would always transfer about the time of fruit bloom, smoking the bees a little before he started to drum them out. He used string to tie old combs in the frames, and the bees would pick them to pieces and carry them out, by the time the combs were fastened.

Mr. Dadant said strings bothered the bees too much; and that the bees sometimes got tangled in them. He used wire, bent L shaped at the ends, and drove them into the frames.

Standards for Judging Italian Bees.

The question-box was taken up next, and the following question asked:

"Should there be two standards for judging Italian bees at fairs? If so, what should those standards be?"

Mr. Hambaugh did not see how we could have two standards for a single race of bees.

Mr. Dadant said the standard should be three yellow bands, whether they be bright yellow or leather-colored.

Mr. Smith said his experience had been that light-colored combs made light-colored bees.

Geo. Poindexter said he believed in rearing the Italians that produce the most honey, regardless of color.

Mr. Dadant thought we could not decide which color was the best, as we did not know.

On motion a committee of three was appointed to investigate as to the steps to be taken for the affiliation of other bee-keepers' associations of the State with the State association. The committee were S. N. Black, J. M. Hambaugh and J. Q. Smith.

On motion, the convention adjourned to meet at 7 o'clock, for an evening session.

EVENING SESSION.

The convention met at 7 o'clock, and the order was unfinished business.

The treasurer's Report was read, and showed a balance on hand of $31.10 of the association fund, and $60.85 of the State appropriation.

Report on Affiliating Associations.

The committee on affiliation reported as follows:

We, your committee, appointed to examine Constitution with a view of adopting an article admitting bee-keepers' associations to affiliate with the Illinois State Bee-Keepers' Association, beg leave to submit to you the following report:

In view of the fact that we have no application for affiliation from other societies, that we deem it the part of wisdom to discourage the plan of affiliation, and recommend that the bee-keepers of the State join personally, thus placing every bee-keeper in the State on an equal footing with us. Mr. Smith assures us that their society prefers this plan, and will join us personally.

S. N. BLACK,
J. M. HAMBAUGH, } *Com.*
J. Q. SMITH,

The report was discussed, and finally laid on the table.

The convention then adjourned to meet at 9 o'clock the following morning.

SECOND DAY—MORNING SESSION.

On Thursday morning, at 9 o'clock, the meeting was called to order by President J. M. Hambaugh.

An essay by Dr. C. C. Miller was read by the Secretary, on the subject, "Do Bee-Keepers Need an Experimental Station?" The essay was discussed, but no further action was taken than that taken at the Chicago meeting in October. [Dr. Miller's essay will soon appear in the BEE JOURNAL.—ED.]

The Committee on Code of Rules and Standards for Grading Apiarian Exhibits at Fairs, made their report, but the

final action on the same was deferred until the meeting at Springfield, next year.

A resolution of Greeting was voted unanimously as follows:

ILLINOIS STATE B.-K. ASSOCIATION,
SPRINGFIELD, Ills., Dec. 15, 1892.

Resolved, That we extend our congratulations to our friends and brother farmers of the State Grange, now in session in this building, wishing them and their organization success and prosperity; and that a copy of this resolution be sent to them at once.

Resolutions were offered by Mr. Dadant, and adopted, as follows:

Resolved, That we extend our hearty thanks to our President, Hon. J. M. Hambaugh, for his successful efforts in securing the annual appropriation from the Legislature for our industry; and also for his successful attempt at securing recognition from the Illinois Commission at the World's Columbian Fair and Exposition; and,

Resolved, That we also extend to our worthy Secretary, Jas. A. Stone, our thanks for his efficient and valuable Report for the year 1891, and for all his work in behalf of the association; and that we instruct the Treasurer to pay into his hands the sum of $25 out of the membership funds of the association, regretting that the sum may not be larger at present.

On motion by A. N. Draper, it was voted that the $20 paid W. Z. Hutchinson for reporting the Chicago meeting, be taken from the State appropriation; this was amended by taking it from the appropriation for next year.

A discussion followed on the "Code of Rules and Standards for Judging Apiarian Exhibits at Fairs," and on motion of Mr. Draper, the report of the committee on the same be ordered printed in our next Report, and not acted upon until next year.

In the discussion on Dr. Miller's essay, Mr. Draper thought we needed no Experimental Station. Mr. Dadant said it was very evident that we had never received any benefit from an Experimental Station, and that we never would unless it be in the hands of a good bee-keeper.

Greetings from the Illinois State Grange, in session at the State House, Springfield, Dec. 15, 1892.

JAS. A. STONE, SEC. ILLS. STATE B.-K. ASSOCIATION.

Dear Sir:—The friendly message of your Association to the State Grange has been received and presented, and I am directed to respond, thanking you and your associates for the courtesy extended. We are all co-workers on the farm, and in the various interests of agricultural affairs, and it is meet that we give each other the right hand of fellowship and good-will in the common cause.

Trusting that your meeting is pleasant and profitable, and will be crowned with success, I am very truly and fraternally yours, THOMAS KEADY, *Sec.*

The above message was read, received, and ordered printed in our Report.

The committee on Legislative measures reported, and on motion their report was read and adopted by sections as follows:

Your committee recommend that it is advisable to secure the following Bills from the Legislature:

1. A Bill to prevent the spraying of fruit-bearing trees, shrubs, vines or plants with poisonous compounds during bloom.

2. A Bill to compel adulerators to label all mixtures of extracted honey with the true name of their components, whether sugar, glucose, or other sweets not gathered from the flowers.

We believe that all mixtures that are not entirely pure extracted honey as gathered from their natural source by the bees, should be so marked, and labeled with the name of the manufacturer.

3. A Bill to continue the appropriation to the State Bee-Keepers' Association for the publishing of its Report.

4. We also recommend the election of a committee to be composed of Messrs. J. M. Hambaugh, S. N. Black, and J. A. Stone, as a standing Legislative committee to pursue the aim of securing the above-mentioned legislation.

C. P. DADANT, J. A. STONE,
CHAS. BECKER, G.E. ROBBINS, } *Com.*
GEO. POINDEXTER,

The convention then adjourned until 1:30 p.m.

AFTERNOON SESSION.

The convention met at 1:30 p.m., with President Hambaugh in the chair.

An essay was read by Mr. C. P. Dadant, on, "Why Farmers and Horticulturists Should be Bee-Keepers." This will be published in the Report. [It will also appear in the BEE JOURNAL soon.—ED.]

Mr. A. N. Draper read an essay on "The Adulteration of Honey," which, on motion, was ordered sent to Mr.

Ernest Root, to be read at the meeting of the North American at Washington; and that our meeting earnestly protest against the sale of sugar syrup fed to bees and sold under the name of "honey."

The election of officers for 1893 resulted as follows:

President—Hon. J. M. Hambaugh, of Spring.

Vice-Presidents—1st, J. Q. Smith, of Lincoln; 2nd, Mrs. L. Harrison, Peoria; 3rd, Peter Miller, of Belleville; 4th, Geo. Poindexter, of Kenney; and 5th, C. P. Dadant, of Hamilton.

Secretary—James A. Stone, of Bradfordton.

Treasurer—A. N. Draper, of Upper Alton.

On motion, the Executive Committee was instructed to place the next State appropriation in the hands of the Treasurer.

The convention then adjourned *sine die*. JAS. A. STONE, *Sec.*

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

Feb. 25.—Wabash Valley, at Vincennes, Ind.
Frank Vawler, Sec., Vincennes, Ind.

April 5, 6.—Texas State, at Greenville, Tex.
A. H. Jones, Sec., Golden, Tex.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

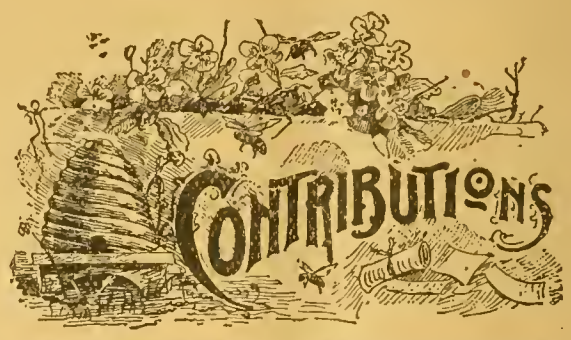
North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Your Neighbor Bee-Keeper—have you asked *him* or *her* to subscribe for the BEE JOURNAL? Only $1.00 will pay for it for a whole year. And, besides, *you* can have Newman's book on "Bees and Honey" as a premium, for sending us two new subscribers. Don't neglect your neighbor! See page 101.



Further Details of Packing Bees for Winter.

Written for the American Bee Journal

BY JAS. A. GREEN.

Several bee-keepers have written me asking me to detail more fully the method of wintering bees given on page 22. In this article, and a succeeding one, I will endeavor to cover the points inquired about, and to render the whole subject as plain as possible for the beginner.

There are localities, no doubt, where it is better to winter bees in a cellar. This does not depend altogether upon the matter of latitude, as we find from reading the reports from various localities that there are some places very far north where bees are wintered out-of-doors with success year after year, while in other places much farther south, bee-keepers have come to regard cellar-wintering as the only safe method. Neither is this difference in results due entirely to the variations of climate from local causes. A part of it is to be ascribed to the differences in methods of preparing the bees for winter, and another part to the differences in cellars.

For some unexplained reason, or reasons, cellars vary greatly in their suitability for wintering bees. This is a matter that will perhaps bear considerable investigation. At present all we know in regard to it is that two cellars, in the same locality, apparently exactly alike in all the requisites for a good bee-cellar, will show year after year a wide difference in results. For these and other reasons, no one can be sure that it will pay him better to winter bees in the cellar, until he has himself made it a matter of experiment. If he makes a change in cellars, he may have to experiment anew.

Without going deeply into the subject of out-door *vs.* cellar wintering of bees, I will simply state that it is my belief

that wherever out-door wintering can be made successful, it is the preferable method. Furthermore, I believe that there are but few localities where bees may not be wintered successfully out-of-doors by using proper methods.

After experimenting with several different cellars for a number of years, some of which wintered the bees as well as I should ever expect any cellar to do, I have come to the conclusion that, for me at least, it is much more profitable to winter bees out-of-doors. In forming this opinion, I have taken into consideration all the factors that may arise during the whole year, that bear on the problem. Too many limit their consideration of the subject to the time the bees are in the cellar.

The essential requisites for successful wintering, beyond a sufficient number of bees and a sufficient quantity of food of good quality, are that they should be as well protected from the cold as possible, and at the same time leave them ready to fly whenever the weather will permit. It is common to attempt to fill these conditions by removing a part of the frames on each side of the hive, and fill in the space left with chaff-packed "dummies," filling the upper story with chaff cushions or other packing material.

This inside packing is good as far as it goes, but in the ordinary single-walled hive it does not go very far, and is a very incomplete protection. Good two-story chaff-hives give much better results—almost as good, in fact, as those obtained by outside packing. But such hives are very much more expensive to make, and so much more inconvenient to handle, that the practical bee-keeper in these days cannot afford to burden himself with them. A defect in such methods of protection is, that the packing material cannot be made to form an unbroken protecting envelope around sides and top, as is the case when hives are properly packed on the outside.

As I go about the country, I frequently see bee-hives that the owner has tried to protect by piling corn-fodder, straw or litter about and over them, leaving the fronts exposed. While this may be of considerable value in keeping the wind from striking the hives, it does not afford as complete a protection from cold as is desirable. The covering becomes wet, and is apt to prove a veritable "wet blanket" to the prosperity of the colony. Besides, this continual dampness is very hard on the hives. Quite an important item in favor of complete protection is that the hives, being completely protected from the weather, will last much longer, and especially will not need painting nearly as often. The outer cases, being made of cheaper material, will probably add enough to the durability of the hive to pay for their cost.

An error that many beginners fall into is to attempt a method of wintering that I will describe by quoting from the letter of inquiry lately received. It is as follows:

"I have this winter taken my hives into an open chamber over a summer kitchen, which is very cold, of course. I set the hives close together, all facing one way, and put around the sides and back a good supply of newspapers, then covered over with thick quilts, and also around the sides, back and front, but not tight enough in front but what plenty of air can get to them. Now, do you think they will winter this way? or should I remove this and fix as you have stated in the BEE JOURNAL?"

This man was evidently anxious to prepare his bees for winter in the best possible manner, as is shown by the pains he took with them; yet it is probable that his bees would have wintered better if he had left them out-of-doors without any attention whatever. The method has all the defects of cellar wintering—some of them in an aggravated form—without any of its advantages. Such a place as is described is but little warmer than out-of-doors, in the coldest weather, and it does not warm up as quickly when warm days come.

There are often days in the winter when the sun shines bright and warm for several hours, and the bees outside have a good, cleansing flight that puts them into good condition to stand another siege of cold weather. But the enclosed building does not warm up readily in the brief sunshine. The bees confined to their hives for month after month in a low temperature, become restless and uneasy from the overloading of their intestines with fecal matter, and perish with diarrhea, or come out in the spring in such a weakened condition that they soon succumb.

If the building does become warmed up enough for bees to fly, and results are as bad or worse, as the bees, leaving the hive, fly to the windows, where they perish. If there are no windows, they fly out at the cracks, and in returning fail to find the hive.

I advised this inquirer to leave his bees where they were until a day came warm enough for bees to fly outside, then take them out and protect them there. They should be put on the stands

they occupied in the fall, unless there is snow on the ground, when this will not be necessary.

It is generally conceded that a cellar or building in which bees are kept, should be kept as dark as possible to secure the best results. This is especially true if the temperature ever becomes high enough to tempt the bees to fly from their hives.

Some bee-keepers are successful in wintering their bees in buildings above ground, though their numbers are few. These wintering repositories are made with thick, frost-proof walls, and a number of colonies are wintered in the same place. It should be remembered that a hundred colonies may winter perfectly in a place where half a dozen would all die.

As stated in my article on page 22, I now prefer to pack 4 colonies in one box. In doing this, I do not want to move the bees far from the positions they occupied in the summer. A common mistake on the part of novices is to move their bees into new positions on the approach of cold weather, for the purpose of protecting them more conveniently, usually setting them in a long row. If a warm day comes soon after, or in fact, at any time, unless the appearance of the surroundings have been greatly changed by a fall of snow or otherwise, the bees return in great numbers to their former location, and thousands of them are often thus lost.

When a number of hives are set closely together in a row, trouble is often experienced if it becomes necessary to examine a part of them, as it is hard to do anything with one colony without disturbing all, to a greater or less extent. Besides this, when the bees fly out, they are apt to become mixed, and, in returning, enter the wrong hives, sometimes a few hives getting nearly all of them. This is especially the case when their first flight is on a day that grows suddenly warm after a long confinement. In the spring, this is very ruinous, and there is often great loss from this source.

To obviate loss from this mixing of bees, never place more than three hives in a row at any season. For convenience in handling, it is better not to have more than two.

The hives that I pack together are set in groups of four, two facing east and two west, which position they occupy all summer.

It is not necessary or desirable that they should be as close together in the summer as they are wanted for winter. A hive of bees may be moved two or three feet forward or sidewise, or twice that distance back without detriment, provided its general position toward its surroundings is not thereby changed. If it becomes necessary to move them greater distances than this, or to change their relative positions, it should be done gradually, moving the hive a foot or two each day that the bees fly freely.

Ottawa, Ills.

(Concluded next week.)

Workers Laying with Unsealed Brood—Will of the Queen.

Written for the American Bee Journal

BY DR. C. C. MILLER.

Not often does one meet with so jolly a foe as Mrs. Atchley. We ought always to be glad to have the truth prevail, no matter which side whips, but it is much easier to do so when our opponent fights fair and good-naturedly.

I think Mrs. Atchley has given satisfactory proof as to workers laying with unsealed brood in the hive, as many such cases have come under her own observation. And although she does not say so, I suppose she has also seen with her own eyes, cases of laying workers while young queens were present.

Her experiment with the eggs laid by the queen in her hand is very interesting, but I must say it doesn't prove beyond the possibility of a doubt that the will of the queen has anything to do with the sex of the egg. Indeed, interesting as are her experiments, they hardly can be said to prove anything new, for queens often lay eggs, in rudimentary cells, much the same as if laying eggs on the hand. The possibility is that a queen, when laying eggs in drone-cells, is in some way in a different position from that in which she lays worker eggs.

Please understand that I don't pretend to know. Indeed, I have some doubts if any of us will ever know positively about it. And practically, I'm not sure that it is a matter of any great importance. As it seems to me, there are difficulties in the case, whichever view we take.

I can think of one argument that would be more convincing than anything yet brought forward in favor of the "will" theory. It would be to find the queen laying in drone-cells that were merely begun. Because in that case she would be in about the same

position as in rudimentary worker-cells. Does a queen ever do this, or does she always wait until drone-cells have a fair depth before laying in them?

We know that workers are reared sometimes in drone-cells, and that in such cases the queen must have laid worker eggs in them. But in such cases are not the mouths of the drone-cells made the size of worker-cells by the addition of wax? I think they have always been in the cases I have seen. Now if workers can be reared all right in drone-cells (and we know they can), and if the queen can lay either kind of eggs at will, why is it that at a time of year when workers only are reared, the queen will leave vacant the drone-cells that are in the middle of the brood-nest instead of filling them with worker-eggs?

I once gave to a colony a hive filled with drone-comb. Surely, if the "will" theory is correct, the queen, in that case, ought to have laid worker-eggs in drone-cells. Did she? No; with no brood in the hive she wouldn't lay drone-eggs, and it seemed she couldn't lay worker-eggs, so she deliberately "struck," and the bees swarmed out. I suppose they thought it would be too big an undertaking, and take too much wax, to narrow the mouths of all the cells.

At times when the queen seems so anxious to lay in drone-cells that she will go two or three combs out of the brood-nest to find drone-cells, why doesn't she lay drone-eggs in worker-cells in the middle of the brood-nest, if she can? To that it may be answered that she will not do so because there is not room for a full-sized drone in a worker-cell; but that is hardly a satisfactory answer, in view of the fact that in other cases the bees don't use that kind of reasoning, as when they try to rear a queen from a drone larva. They are anxious for a queen, and they try their best to rear one with the material on hand, although it must be a total failure, why should they not try to rear drones in worker-cells when so anxious for them, and no drone-cells in the hive? Or is it because the workers are more stupid than the queen when a thing is left to their intelligence?

Just a word about "compression:" Possibly it isn't best to use that word, but if the will of the queen does not control the matter, and there is nothing better than to suppose that there is mechanical compression when worker-eggs are laid, it does not follow that such compression does not exist even when the queen lays eggs on the hand. For it is possible that in that case there is sufficient curving of the body to make the same compression as when the queen is laying in a worker-cell.

On the whole, I don't know for certain which theory is true, and I doubt if either of us will ever know. So if Mrs. Atchley thinks she knows, she can consider herself ahead more than half the time, and we'll look for something else to quarrel about.

Marengo, Ills.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Unable to Supply the Demand.

I have 26 colonies of bees, most of which are in movable-frame hives. My frames are 11x17 inches, with the top-bar in two pieces, which makes it very easy to fasten the foundation. The super holds 27 one-pound sections. Last year was very poor here, my best colonies storing only 54 pounds, and others none. I got 20 cents per pound for all my honey, and cannot nearly supply the demand. JOEL CONRAD.

Linden, Ind., Jan. 25, 1893.

The Seasons of 1891 and 1892.

The year 1891 was a poor one for bees. I had 53 colonies which yielded only 700 pounds of comb honey, but the bees were in good condition for winter. I winter my bees in the cellar, and on April 24, 1892, I put out 51 colonies, which seemed to be strong and hearty, but on account of much rain and cold weather, I had to feed them and double them down to 42 colonies, and many were then so weak I had to feed them through May and two-thirds of June. On July 16th they began to move up into the surplus boxes. On Aug. 10th I had some swarms, having 130 pounds of surplus honey in one and two pound boxes, and in all I had 2,500 pounds

of honey, and the colonies had increased to 51, which had plenty to live on until next spring. I have sold all my honey at 12½ cents per pound.

There are many here that have lost all their bees—some lost one-half, and others two-thirds of what bees they had, while I only lost 2 out of 53 colonies, and 9 swarms I doubled, so I believe the cellar is the best place to winter bees.

As my bees are black and hybrid, I expect to get a good queen-bee of the best 5-banded Italian, if possible to improve my bees, though I believe the black bee winters the best. I think that hybrid queens breed the fastest in the spring. The hybrid bees are generally the ugliest, but I have no trouble in handling them. I use neither veil nor gloves, and I go right in amongst them with my sleeves rolled up, and no protection of any kind.

J. E. THORSTAD.

Blair, Wis., Jan. 26, 1893.

Visionary Bee-Keeping, Etc.

I saw the advertisement of Mrs. Lizzie E. Cotton in the Topeka *Capital*, also in the Lawrence *Journal*, wherein she stated that one person from her new system of bee-keeping started with one colony, and the third year sold $800 worth of honey, and increased to 26 colonies! Can it be that she is as big a humbug as she used to be a few years ago?

Bee-keeping has been a poor business in Kansas for the past two years. There was no surplus honey. I have 49 colonies wintering on the summer stands, and all seem to be in good condition. Some are in double-walled hives, and the rest in single-walled hives. I never could see any difference in their wintering.

A. L. WILLIAMS.

Lawrence, Kans., Jan. 27, 1893.

Virgin Queens—Comb-Baskets.

I notice in *Gleanings*, page 53, that some reviewing has been done, and some valuable knowledge given in the matter of virgin queens being fertilized beyond 21 days old. My rule has been to kill them after 21 days, if no appearance of laying or fertilization was noticed. Now I think I will wait 31 days.

I have read Query 854 in the BEE JOURNAL about sloping comb-baskets in extractors, and would say that the slope is far the best for all combs that hang in a basket the same as in a hive; for two reasons, viz.: 1st, the brood will receive less centrifugal force, it being near the center shaft, and if no brood, the bottom honey will be the last stored, and thinnest, and go out easily. 2nd, honey-cells are sloping upwards when the combs are plumb, but when sloping the comb brings the cells level, otherwise the honey would have to be raised up before going out of the comb. But for Langstroth combs, or any that stand in the basket on an end, I want them to stand plumb, because the honey is as ripe at the bottom as at the top, and needs as much force to throw it out.

One more "kink" I will tell about: There is a right and wrong way to put Langstroth combs into the extractor, on account of cells of comb sloping upward. Always make the bottom-bar of the frame go ahead when turning, then the cells will be sloping backward a little, and the honey flows out easily. For illustration, see how a scoop shovel can be loaded or unloaded by this sloping either forward or backward. I have my bees in the cellar this cold winter.

JAS. R. BELLAMY.

Black Bank, Ont., Jan. 23, 1893.

What the Black Bees Did.

I have a colony of black bees which cast a prime swarm on May 30, 1892, and one on June 10, which were both hived separately. The first swarm swarmed again on July 20, and the second swarm gathered 50 pounds of comb honey, besides 55 pounds for winter stores. I call that pretty good for last season, as we had so much rain here that bees could work only half the time.

AUG. BARTZ.

Chippewa Falls, Wis., Jan. 30, 1893.

Beginner's Experience and Troubles.

I desire to report my success in honey-production, and also my troubles, and see if any one can help me with advice.

On July 8th I procured a colony of black bees; in three weeks they filled 28 one-pound sections, and later filled the hive full to overflowing with honey of No. 1 quality.

On Aug. 16th they cast a fine swarm, which stored about 40 pounds of honey before frost came. The hive was a home-made affair, hastily constructed; the tops of the frames were not beveled, and no starters were used. The bees built their combs crosswise of the frames, so they cannot be removed. They were a strong, vigorous colony,

and I intended to run them for increase next season.

In October the parent colony (with its rich stores of white honey) was stolen—we never discovered the loss until after dark the next night. The young colony was hurried into the cellar, right then—without any examination. They had plenty of fresh air, and seemed all right by their hum, whenever I tapped on the hive, so I did not disturb them by opening their hive until Christmas, when I peeped in and saw a few webs and empty moth-shells.

To-day they are numerous, and honey is running out of the hives, while the bottom-board is covered with powdered comb. The bees are still alive, with plenty of good honey. Now, my query is, Can anything be done to save them?

The frames were 16x10 inches, 13 in number, and the bees or honey occupy 9 of them. Perhaps there is too much vacancy. MRS. A. M. SHANK.

Sioux City, Iowa, Jan. 30, 1893.

[The case may not be so desperate as it looks. As there is plenty of honey, if there are plenty of bees they may come through all right. But if there are so many worms that they have torn down the combs enough to set the honey running, it is probable that there are so few bees that they will hardly pull through. Are you sure it is honey and not water that is running out of the hives?

In either case, you can hardly do any better than to wait patiently until you can set them out for a flight, *after* it seems fairly settled for warmer weather.

If they live through, and the combs are too crooked to be removed, you can treat it as a box-hive, and transfer three weeks after swarming.—ED.]

Cold Weather—Extracted Honey.

As I write the thermometer indicates very severe cold weather, from 10° to 30° below zero. Bees that are left out-of-doors unprotected will perish if this weather continues long. Those that are well packed in chaff or other dry absorbing material, will stand a far better chance; still, if this severe weather continues very long, many of these will probably succumb. Those that are in warm positions, or cellars, I think are very much better off—at least for the present; but when April and May come, many of the hives may be empty, or the bees so reduced in numbers that very little surplus honey can be obtained until July.

The past year has been quite an unfavorable one for the bee-keeper in my locality; not more than one-half of an average crop has been obtained. A large number of colonies died last winter and spring, still there seemed to be plenty left. Many of the novices have been discouraged. For several years bees have wintered well any where. The wild bees seemed to pull through all right, and swarms are very often to be seen by farmers in the summer.

There are very few bee-keepers who give much attention to the extracting of honey, nearly all seeming to be contented to obtain what they can in the comb; not seeming to understand how much more certain they are to obtain a good crop, or how much better the swarming can be controlled. But, alas! where is he to find a market for his extracted honey? Can he place it on the market and get his cash? Not much. The adulterator has been there, and the would-be consumer has been fooled and swindled so much, and so long, that he has no confidence in any "strained" honey. It seems to me that it is high time for bee-keepers to arise *en masse*, and cry loudly to Congress to pass such laws as will give us relief. I am glad the AMERICAN BEE JOURNAL is wide awake on this subject, and is pushing the work. Let every bee-keeper in the land bestir himself, and let us see if we can't stop this nefarious business, that is so ruinous to our business.

A. C. SANFORD.

Ono, Wis., Jan. 14, 1893.

The Changeable Weather of 1892.

Last season was about the most destructive we have had in the history of the State, on bee-culture, especially south-eastern Kansas. February opened warm and nice; the soft maple and elm blossomed, then came a freeze about the first of March, killing the bloom. The bees having commenced rearing brood, they dragged some of it out, as they could not cover it all. The weather continued bad all through the month. The fruit-trees began to bloom in April, starting the bees to breeding again, then the weather became wet and cold, chilling a great deal of the brood, and continuing wet and cool until the last of May, and a great many bees starved to death, unless they were fed, and leaving

them too weak for the honey-flow of June to give any surplus. They just got built up nicely when the drouth set in in July, so they consumed about all of their stores until the last of the month, when the fall honey-flow began to come. They gathered a little until the first of September, then the bees began to roll the honey in. My report is as follows:

From 16 colonies I took 300 pounds of comb honey, and 204 pounds of extracted honey, making an average of 31½ pounds to the colony. My best colony gave me 104 pounds of honey—84 pounds of comb honey, and 20 pounds of extracted. My bees went into the winter with about 50 pounds per colony. The winter has been good so far for the wintering of bees.

L. WAYMAN.

Chanute, Kans., Jan. 23, 1893.

An Old Bee-Keeper's Report.

I purchased 5 colonies one year ago, and increased them to 14, which I have in winter quarters. I secured a copy of the BEE JOURNAL from a friend, and found in it an article on bee-catchers that was worth to me more than the price of the BEE JOURNAL. I am in my 85th year, and still in good health.

JOHN W. CRARY.

St. Paul, Minn., Jan. 27, 1893.

Experience of a Beginner.

In the fall of 1891 I purchased one colony of bees, and before cold weather came on I fed them a large amount of sugar syrup, so they would be sure to get through the long winter; but they all died before spring. I immediately purchased another, that was alive, although a little short of honey, but it carried them through. These I looked on for some profit, but almost in vain. They swarmed once, but left for parts unknown, so I was still left with one colony, and I thought of course they would store a good supply of honey, but to my surprise only 3½ pounds. Not quite discouraged, I purchased 2 colonies more to make 3 to put away for the winter, which I did as best I could, and as yet they are all alive.

Some of the writers speak of their bees taking a flight on such a day that they could not speak of here in Vermont, for we have about four months of the year that a bee could not leave the hive ten seconds before she would be frozen stiff. The mercury often drops to 35° or 40° below zero; the average temperture for the last 40 days and nights has been 4° below zero. Now, saying nothing about the weather, I well know that I am on the wrong track in bee-culture, and would like to be helped on the right one, by all who wish to assist one that always wants to succeed in his undertakings.

E. H. HALLETT.

St. Johnsbury Center, Vt., Jan. 23.

Temperature in December.

I send the report of the December, 1892, temperature here at Ionia, Mich., Greenville, Tex., and at Hamilton, Ills., which is as follows:

Taken near sunrise at each place.

Dec.	Mich.	Tex.	Ills.
1.	11° above.	45° above.	30° above.
2.	11°	44°	40° Bees fly.
3.	11° Bees fly.	48°	21°
4.	20°	43°	27°
5.	28°	38°	41°
6.	40° Rain.	31°	46°
7.	20°	30° Frost.	48°
8.	32° Snow.	31°	21° Snow.
9.	30°	33° Rain.	25°
10.	26°	35° Rain.	14°
11.	19° Snow.	37°	15°
12.	32°	35° Rain.	25°
13.	30°	36°	32°
14.	30°	33° Frost.	31° Rain.
15.	24°	34°	22° Rain.
16.	30°	36° Rain.	21° Rain.
17.	28°	37°	21°
18.	24° Snow.	30°	21°
19.	22° Snow.	36° Rain.	19° Rain.
20.	16°	28°	— Rain.
21.	6°	34° Rain.	13°
22.	5°	37°	3°
23.	10° Snow.	40°	22°
24.	1° Below 0.	43°	27°
25.	6°	45°	13°
26.	8° Snow.	28° Freezing	8°
27.	11° Snow.	30°	5°
28.	16° Snow.	32°	2°
29.	4°	32°	20°
30.	15°	38° Rain.	26°
31.	34°	36°	28°

During the month the 3rd and 6th were clear, the remaining part cloudy mostly all day. Direction of the wind was—west 13 days; southeast, 3 days; south 3; northwest 6; west 4. In Greenville, Tex., 18 days it was north and northeast, and northwest.

JACOB MOORE.

Ionia, Mich., Jan. 4, 1893.

[This is the second temperature report we have published, and if they are of sufficient interest they will likely be continued. We should be pleased to know whether our readers care enough about it to ask that we keep up the publication of these monthly records of the weather.—ED.]

Wintering Well—Good Prospects.

My bees are wintering well. This is about the time when our bees have the hardest time. They have been in the cave two months. If bees are in good condition this time of the winter, they will be in good condition in the spring. I examined five hives to-day, and they all had sealed brood. We have had a grand winter—about six inches of snow, and five weeks of cold weather. When we have a good cold winter and snow, we have a good grain crop later, and also a good honey year. Why not have good courage? May we all be blessed this year with a good crop of honey—and that means money.

G. W. NANCE.

Peiro, Iowa, Jan. 23, 1893.

Cold Weather—Moving Bees, Etc.

I have 120 colonies—80 in chaff hives, and the balance in cellars. I have not made an effort to keep them warmer than 38° in the cellar, but leave on duck and cushions. When this cold spell is over, it will be about 40° to 45°.

I use the Tinker 7-inch depth 8-frame Langstroth hive, and add alternate combs with additional hives until the honey-flow; then I put the queen down in the lower story, and as the brood hatches, and the combs are filled I add more combs and hives, and at the close I have a queen in the top hive over an excluder, often laying before the harvest is over, and then I can divide, or destroy the old queen. I have stored them as high as 10 stories in a few cases, but mostly 6 or 8, and to go into my yard at night makes me think of the engine depot, with all steamed up ready to start.

I am only 50 feet from a church, and close to a horse-shed, and I do not have much trouble, but I have noticed that if I am out, and they get a little unsteady, when I return they seem to know it, and become quiet very soon after, if I go around among them.

Last summer I thought I would move one large colony, and let come what would. I moved them in the afternoon, while part of the bees were away, to the other side of the yard, about 30 feet, and in a few moments the old stand was enveloped in a dense cloud of bees. With quite a cluster on the old stand, I took this and moved slowly to the new stand, many following me; then I went back and talked and motioned to them to go with me to the new stand, and finally succeeded in getting them all into their own hive. During the time I was at work I could see that part of the bees understood, and were acting as guides, and soon all were quiet. The next day they worked better than ever. The reason I moved them was, they were too much in my path. The last two seasons have been so mild that many have left bees out without protection this year, and are caught in this deadful cold spell, and we will see how they come out. My "knock down" chaff hives contain 2 colonies each, 2 inches of planer shavings on the sides, and a 6-inch chaff cushion on top of duck; 2 stories, with 2-inch rim under, and they seem to be doing well.

Martin H. Adams has 60 colonies that he left out in double-walled hives, and he is now sorry he did not put them in. It will be a test worth noticing; they are in large hives, heavy with honey. We have had it 23° below zero, and some less for a long time; occasionally a few degrees above, but no let up from cold weather for four weeks. Honey was poor with us last year, but we have hopes for next summer.

E. H. STURTEVANT.

Fort Ann, N. Y., Jan. 20, 1893.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given n the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club.*
The American Bee Journal.....	$1 00....	
and Gleanings in Bee-Culture....	2 00....	1 75
Bee-Keepers' Review.....	2 00....	1 75
The Apiculturist.....	1 75....	1 65
Bee-Keepers' Guide.....	1 75....	1 65
American Bee-Keeper.....	1 50....	1 40
Canadian Bee Journal.....	2 00 ...	1 75
Nebraska Bee-Keeper.....	1 50....	1 35
The 8 above-named papers	6 50....	5 50
and Langstroth Revised (Dadant)	2 40....	2 25
Cook's Manual	2 00....	1 75
Doolittle on Queen-Rearing.	2 00....	1 65
Bees and Honey (Newman)..	2 00....	1 65
Advanced Bee-Culture.....	1 50....	1 35
Dzierzon's Bee-Book (cloth).	2 25....	2 00
Root's A B C of Bee-Culture	2 25....	2 10
A Year Among the Bees	1 50....	1 35
Convention Hand-Book.....	1 25....	1 15
Illustrated Home Journal..	1 50....	1 35

Do not send to us for sample copies of any other papers. Send for such to the publishers of the papers you want.

"Bees and Honey"—page 229.

AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

56 FIFTH AVENUE, CHICAGO, ILLS.

Special Notices.

The Date on the wrapper-label of this paper indicates the *end* of the month to which you have paid for the JOURNAL. If that is past, please send us one dollar to pay for another year. This shows that Mr. Porter has paid his subscription up to the *end* of December, 1893 :

Wallace Porter Dec93
Suffield, Portage co, Ohio

Doolittle's Queen-Rearing book should be in the library of every bee-keeper ; and in the way we offer to to give it, there is no reason now why every one may not possess a copy of it. Send us one new subscriber for a year, and we will mail the book to you bound in paper, as a present.

"The Winter Problem in Bee-Keeping" is the title of a splendid pamphlet by Mr. G. R. Pierce, of Iowa, a bee-keeper of 26 years' experience. It is 6x9 inches in size, has 76 pages, and is a clear exposition of the conditions essential to success in the winter and spring management of the apiary. Price, postpaid, 50 cents ; or given as a premium for getting one new subscriber to the BEE JOURNAL for a year. Clubbed with the BEE JOURNAL one year for $1.30. Send to us for a copy.

Read our great offer on page 229.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, February 18th, 1893 :

CHICAGO, ILL.—There are occasional sales of best grades of comb honey, but the retailers are not yet sold out on supply laid in before the holidays. Prices are a little easier, especially on that which will not grade "fancy"—such brings 17@18c., and other grades 12@16c. Extracted, 6@9c., as to quality.
Beeswax—22@25c. R. A. B. & Co.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It selis readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted,fair supply, with good demand at 8½ ; dark, 6@7c. Beeswax—23@25c. J. A. L.

CINCINNATI, OHIO.—Demand from manufacturers is slow, but the demand is good for extracted for family use. It brings 6@8c.—No good comb is on our market. It would bring 14@16c.
Beeswax—Demand good.at 23@25c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted ls scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand. B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted. 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS,MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

ALBANY, N. Y.—Our honey market is slow on account of cold weather, but our stock was never so light as now. We have less than 50 cases of honey on hand, and only one barrel of extracted; when usually we have 1,000 cases in stock. For honey not granulated in comb,we quote: White (small).15@18c.; mixed 13@14c.; dark, 10@11c. Large comb and double glass sell for 1 to 2c. less per lb. Extracted, white, 8½@9c.; amber, 7¼@8c.; buckwheat, 7@7¼c. H. R. W.

Great Premium on page 229!

MASSACHUSETTS AGRICULTURAL COLLEGE

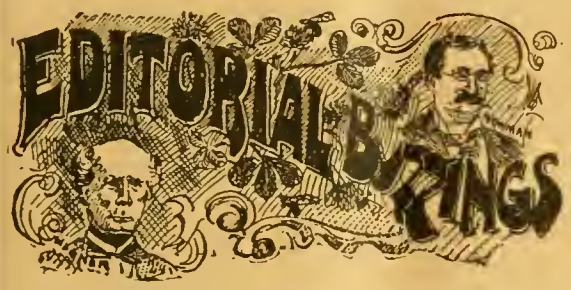
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., MARCH 2, 1893. NO. 9.



Anti-Adulteration Bill.—Mr. Jas. A. Stone, the indefatigable Secretary of the Illinois State Bee-Keepers' Association, on Feb. 6th, sent us a copy of a Bill that was to be placed in the hands of the members of each branch of the State Legislature the next day. It is directed against every form of adulterated honey and its sale, and reads thus:

An Act to Prevent the Adulteration of Honey:

SECTION 1. Be it enacted by the people of the State of Illinois, represented in the General Assembly, That it shall be unlawful for any person or persons to adulterate honey by mixing with it any sweets of whatsoever kind, not gathered from flowers or blooms; or to mix together any such sweets, whether with or without honey, or cause it to be done by any agency whatsoever, and to offer for sale, or sell without labeling it with the true name of its component parts, with the proportion of each, and with the name and location of the manufacturer.

SEC. 2. Any person or persons convicted of a violation of any of the provisions of Section 1 of this Act, shall be deemed by the court guilty of misdemeanor, and shall be fined in any sum not less than one hundred dollars ($100), and not more than five hundred dollars ($500), one-half of said fine to go to the informer, and the other half to the school fund.

This a move in the right direction. Once give the Bee-Keepers' Union a good law to use against the adulterators of honey, and there will be lively times ahead for that kind of evil-doers. The Bill should become a law at once, and then be brought to bear upon those who would tamper with pure honey. Down with every form of adulteration! Give the American people what they demand above all things, *pure* and unadulterated food!

The Victorious Union.—Once more the National Bee-Keepers' Union has fully demonstrated its great value to the industry of bee-keeping. Whether its influence is brought to bear upon local decisions or State Legislation, it is alike successful in each. The following is from the General Manager, and will be encouraging reading:

FRIEND YORK:—The members of the National Bee-Keepers' Union will be pleased to learn through the columns of the AMERICAN BEE JOURNAL of the result of the "first round" for the year 1893, in the battle with the enemies of the pursuit of bee-keeping.

On Jan. 16th, as soon as the Senate of Missouri got to work, Senator Sebree introduced the following, entitled, "An Act to regulate the keeping of Honey-Bees in Cities, Towns and Villages in this State, and to provide a penalty for

its violation." The full text is as follows:

Be it Enacted by the General Assembly of the State of Missouri, as follows:

SECTION 1.—No person shall own, keep or have in his possession or under his control, any honey-bees in boxes, bee-gums or other thing of confinement in any city, town or village in this State, whether organized under general or special charters, nearer than fifty (50) feet from the line of any adjacent real estate owner, or person in possession of such adjacent property.

SEC. 2.—Any person violating the provisions of the preceding section shall upon conviction be fined for each offense not less than ten nor more than twenty dollars, and each offense shall be deemed a period of one week after one notice in writing shall have been given to the owner or person in possession of the bees to remove the same to a distance provided by the first section of this act; and if after notice the owner or owners or party in possession of said bees, it shall be the duty of the sheriff of the county, or the constable of the township, in which the offense is committed to remove the said bees to the said distance of fifty feet, and for reasonable compensation for his services he shall have an act of debt against the owner or person in possession of said bees, and the said bees, nor the boxes or bee-gums, or thing in which they shall be kept, shall be exempt from execution to pay the judgment founded upon such claim for said services for removing the same as aforesaid.

SEC. 3.—If the said honey-bees cannot be removed and kept in boxes, bee-gums or other thing at a greater distance than fifty feet from the line of the adjacent owner or proprietor, as provided by Section 1 of this Act, then in such event the keeping of them in such city, town or village is absolutely prohibited, and after ten days, notice in writing to remove the same, the owner or person in possession or control of them shall be punished upon conviction, as provided by Section 2 of this Act.

Here is a clear case of prohibition of the pursuit in all "Cities, Towns and Villages" in Missouri, if it should become law, for a bee-keeper must have OVER 100-foot lot to be able to keep his bees "fifty feet from the line of any adjacent real-estate owner, or person in possession of such adjacent property." But few bee-keepers would have more than 50 feet in all.

Mr. W. S. Dorn Blaser, ex-Secretary of the Missouri Bee-Keepers' Association, sent the "Bill" to the Manager of the Union, and instantly the Decision of the Supreme Court of Arkansas was brought into play like a Gatling-gun, and copies of it were sent to the members of the Legislature and to the Governor. Letters were written to them advising them not to allow it to pass, showing that it would be a dead letter, as it was unconstitutional, and would be so construed by the Courts, as they had the precedent of the Arkansas Supreme Court to guide them.

The Hon. R. L. Taylor, President of the Union, was appealed to, and he backed up the General Manager by giving his "opinion" on the Bill—that it was unconstitutional, and should be "fought to the end" vigorously.

Mr. Joseph G. Banning, President of the Missouri State Bee-Keepers' Association, also appealed to the Manager of the Union, and was instructed to fight the Bill at every step—that the Union would see him through, etc. If it had passed both houses, then the Governor had been appealed to, and would in all probability have vetoed it. President Banning writes me thus: "I thank you for your prompt assistance."

When it came up in the lower House, the Legislators were "posted," and promptly *killed* it. And thus ends another chapter in the "Comedy of Errors," of the enemies of apiculture! The Union is again triumphant, and adds "another feather in its cap."

A similar "farce" is now being enacted in Nebraska, but it will doubtless end in a like fizzle. Bee-keepers have a right to be proud of the achievements of their Union for Defense.

THOMAS G. NEWMAN,
General Manager.

Separators.—The following questions have been sent us about the usual width and thickness of separators:

"Will you kindly let me know what is the *usual* width of separators—wood and tin—for use with one-pound sections? Also, the *usual* thickness of wooden separators? It seems to me that the inset is scarcely deep enough to permit separators to be used full depth of section, say 4¼ inches."

The usual width of separators for 4¼-inch sections, whether the separators be wood or tin, is 3⅛ inches. Wood separators are one-twentieth to one-sixteenth of an inch thick—perhaps nearly all being one-sixteenth.

"Nameless Bee-Disease."—Mr. Chester Belding, of Claremont, Va., asks these questions about the so-called "Nameless Bee-Disease:"

Can you give any information about the "nameless bee-disease," or where the bees turn black and shiny, and other bees in the same hive fight and kill them? Do they hatch out in that condition, or do they become so with age, etc.? Does changing combs from hive to hive carry the disease with the combs? Is there any known cure or remedy for it? My bees have been but slightly troubled thus far with it. Please answer in the BEE JOURNAL.

CHESTER BELDING.

There is a good deal of difference of opinion about the nameless disease, some thinking the queen at fault, and a number of cures have been reported as a result of changing the queen. Allowing the bees access to salt water has been reported a cure. Others, however, who have had considerable experience, report that the disease disappears of itself when let alone, and think that in the cases where the trouble ceased upon changing queens, it might have ceased equally soon in the same cases had no change of queens been made.

Perhaps the majority are in favor of changing queens. It is quite possible that the disease is more virulent in some cases than others, as some look upon it as no very serious matter.

The bees do not hatch out with the black, shiny appearance, neither does it seem the result of age, for such bees are generally found with perfect wings.

Mice in Bee-Cellars, Etc.—Mr. E. S. Miles, of Denison, Iowa, asks this question about mice troubling bees in the cellar; its answer will serve to reply to similar questions that we have received:

I have never seen anything in the bee-papers about mice injuring bees in cellars. Do they injure bees when in the cellar, where they can get into the hives?

One day, lately, as I was holding a light so as to shine into the bottom of a hive, a mouse jumped out from between the combs almost amongst the bees. I saw where they had been eating dead bees, and other signs of their being under the combs.

As most of the writers advise leaving the bottoms off, or large entrances, I don't see how a person can keep them out of the hives in the cellar; and it is pretty hard to have a mouse-proof cellar.

That article by the Chinese contributor, on page 858 (1892), was quite a diversion. I hope we will hear from him some more.

We are having some zero weather here now (Jan. 13), with plenty of snow on the ground. The coldest it has been yet is 12° below zero. E. S. MILES.

Yes, indeed, mice will do plenty of damage if allowed to get into hives in the cellar. They will eat live bees, and they will eat honey, but perhaps the greatest damage done by them is the gnawing of the combs. They will gnaw great holes in the combs, and build nests there, in which they no doubt find it very comfortable.

As you say, a mouse-proof cellar is not easily had, but you can do much by way of persistent trapping, and also by giving the mice a diet of some kind spiced with poison, as thin slices of cheese sprinkled with strychnine, cut up into little cubes and placed where the mice can get it conveniently.

The best thing is to bar them out of the hives. With an ordinary entrance that is easily done by means of heavy wire-cloth, having the meshes about one-third of an inch. The same wire cloth may be used full size of the bottom if the hives are left without bottom-boards.

You may like the plan devised by Dr. Miller. He has reversible bottom-boards. One side of the bottom-board is a plain, flat surface, on which the hives rest during summer. The other side is a shallow box an inch and a half or two inches deep, open at the front end, where a piece of wire-cloth closes the entrance.

Don't close the entrance with wire-cloth of fine mesh that will not allow the bees to get through, for in that case the bees that try to get out and find

themselves penned in will make the others uneasy.

We have another article from that Chinese contributor, which we will publish as soon as we have room for it.

Queen Questions.—S. A. Smith, of Blue Springs, Nebr., asks these questions, and requests that they be answered in the BEE JOURNAL:

1. When is the best time to re-queen an apiary?

2. Is a queen that is reared out of the natural swarming season as good as one reared during the swarming season?

3. Is a queen that is reared in the South as good as one reared in our own latitude? S. A. SMITH.

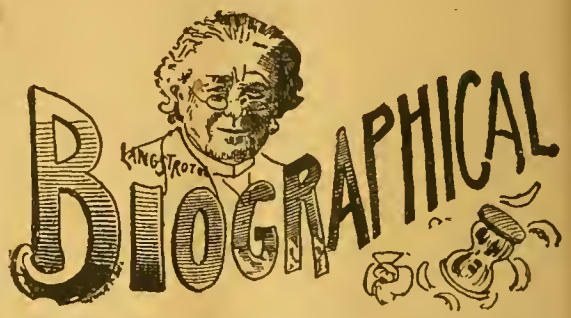
1. The question as to whether the apiarist should take into his own hands the matter of renewing his queens or leaving it in the hands of the bees is one on which all are not agreed. Perhaps the majority leave it to the bees. But if you decide to supplant all your queens, perhaps you will find no better time than during the harvest, or near its close. If you are as successful as some, and get the new queen to laying within 48 hours after the removal of the old, you will see that very little will be lost by the change in any case.

2. As a rule, no. But whether a queen *may* be reared out of the swarming season which shall be as good as any, is quite another question. Many insist, and perhaps rightly, that by having proper control of conditions the bee-keeper may secure just as good queens at a time when bees left to themselves would rear one.

3. Many queens raised in the South have been sent North, and there seem no adverse reports about them.

Self-Hivers is to be the "special topic" of the March *Bee-Keepers' Review.*

Read our great offer on page 261.



MOSES QUINBY.

To many of the present readers of the AMERICAN BEE JOURNAL, the name of Quinby is almost unknown; but to those who are acquainted with the bee-keeping of 25 or more years ago, the one whose picture is shown on the opposite page is indeed well known.

It is well for us all to often turn back our thoughts to other days and times, lest we forget "the pit from which we were digged," or the struggles and sacrifices endured by others, so that to-day it might be possible for us to enjoy the unnumbered blessings which are the results of the untiring efforts of those who have long since passed from the field of activity. As in other pursuits, so it is in bee-keeping, and hence we this week feel that with no little pleasure will be read the following account of Moses Quinby—one of the Princes in the realm of bee-culture a quarter of a century ago. Once more we are indebted to that peer in enduring apicultural literature—the "A B C of Bee-Culture"—for these paragraphs telling of a noble man and his nobler life:

Moses Quinby was born April 16, 1810, in Westchester county, N. Y. While a boy he went to Greene county, and in 1853 from thence to St. Johnsville, Montgomery county, N. Y., where he remained until the time of his death, May 27, 1875.

Mr. Quinby was reared among Quakers, and from his earliest years was ever the same cordial, straightforward, and earnest person. He had no special advantages in the way of obtaining an education, but he was an original thinker, and of that investigating turn of mind which is always sure to educate itself,

even without books or schools. When about 20 years old he secured for the first time, as his own individual possession, sufficient capital to invest in a stock of bees, and no doubt felt enthusiastic in looking forward hopefully to a good run of "luck" in the way of swarms, so that he could soon "take up" some by the aid of the brimstone-pit. But "killing the goose that laid the golden egg" did not commend itself to his better judgment, and he was not slow to adopt the better way of placing boxes on the top of the hive, with holes for the ascent of the bees, and these boxes he improved by substituting glass for wood in the sides, thus making a long stride in the matter of the appearance of the marketable product.

MOSES QUINBY.

With little outside help, but with plenty of unexplored territory, his investigating mind had plenty of scope for operation, and he made a diligent study of bees and their habits. All the books he could obtain were earnestly studied, and everything taught therein carefully tested. The many crudities and inaccuracies contained in them were sifted out as chaff, and after 17 years' practical experience in handling and studying the bees themselves, as well as the books, he was not merely a bee-keeper, but a bee-master; and with that philanthropic character which made him always willing to impart to others, he decided to give them, at the expense of a few hours' reading, what had cost him years to obtain, and in 1853 the first edition of "Mysteries of Bee-Keeping Explained," made its appearance. Thoroughly practical in character, and vigorous in style, it at once won its way to popularity.

From the year 1853, excepting the interest he took in his fruits and his trout-pond, his attention was wholly given to bees, and he was owner, or half owner, of from 600 to 1,200 colonies, producing large crops of honey. On the advent of the movable-frame and Italian bees, they were at once adopted by him, and in 1862 he reduced the number of his colonies, and turned his attention more particularly to rearing and selling Italian bees and queens. In 1865 he published a revised edition of his book, giving therein the added experience of 12 years. He wrote much for agricul-

tural and other papers, his writings being always of the same sensible and practical character.

The Northwestern Bee-Keepers' Association, a body whose deliberations have always been of importance, owed its origin to Mr. Quinby, who was for years its honored President—perhaps it is better to say its *honoring* President, for it was no little honor, even to so important a society, to have such a man as President. In 1871 Mr. Quinby was President of the North American Bee-Keepers' Association.

It is not at all impossible that the fact that so many intelligent bee-keepers are found in New York, is largely due to there being such a man as Mr. Quinby in their midst. The high reverence in which he was always held by the bee-keepers, particularly those who knew him best, says much, not only for the bee-master, but for the man.

On the occasion of the first meeting of the Northeastern Society, after the death of Mr. Quinby, Capt. J. E. Hetherington said, in his address, in a well-merited eulogium on Mr. Quinby: "Of the great amount of gratuitous labor performed by him, to advance the science of bee-culture, the fraternity as a whole will never know, nor can they realize the information imparted to the numbers who flocked to see him personally, especially in the busy season."

"His life has been in every sense a life of usefulness, and not wholly devoted to the interests of bee-culture, for he took a living interest in any movement he thought would benefit society; and as an advocate and helper in the temperance work he did no mean service. He possessed true kindness of heart, and regarded it as a religious duty to make all better and happier with whom he came in contact, and regarded that life a failure that did not leave the world the better for having lived."

The Review will please accept our thanks for the very kindly reference contained in the following paragraph, which it published in its Jan. number:

The AMERICAN BEE JOURNAL is bound not to fall behind. Each issue is to contain a portrait and biographical sketch of some apicultural celebrity. There is nothing like a face to face meeting, and the hearty hand clasp, but even these are rendered still more pleasant by having first seen the portrait and read the sketch.

THE LAND OF DZIERZON

CONDUCTED BY

H. REEPEN,

JUGENHEIM, HESSEN, GERMANY.

Introduction.

I suppose I ought to make some "introductory remarks," but I hate introductions, so I will only express the wish that the highly-esteemed bee-keeping friends in America may be interested in the contents of this new department in the "Old Reliable." H. REEPEN.

European Doings.

ALCOHOLIZED WAX. — Weygandt, the self-styled inventor of artificial heating of bee-houses, if he wants a colony to build as quick as possible new combs, uses wax alcoholized to a very fine powder. He puts it simply on the bottom inside the hive, and the bees take it willingly and carry it up to the combs. But if the wax is not powdered in a very fine way, the bees do not care for it.

A NEW FOUL BROOD REMEDY.—Creoline has turned out to be a good remedy for foul brood. Take a bottle of water and put some Creoline into it, so that the mixture is about 4 per cent.; sprinkle the hive, combs and bees once or twice a week. If the foul brood is very bad, sprinkle all the bees going in the entrance, three or four times a day, so that the antiseptic is constantly carried through all parts of the hive.

DRONE MATING WITH A WORKER.—I shortly read in the AMERICAN BEE JOURNAL that it was impossible, and it never could happen, that a drone-bee could mate with a worker-bee. In the year 1883 the rector Anton Kremer, at Schroda, Provinz Posen, found close to his bee-house, a drone-bee mated with a worker-bee. As he never had heard of such a case, he immediately sent this couple to Schonfeld, the famous bee-savant and microscopist, and he could only ascertain the fact. As far as I know, this couple is still in possession of Schonfeld. B. REEPEN.

Great Premium on page 261

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Worst Weather for a Long Time.

We are to-day having the worst weather for a long time, at this season of the year. The mercury is down to 28° above zero, and ice is hanging on the fruit-trees and the houses. Well, I guess we can't *always* have pleasant sunshine. The bees are as still as midnight, but I think they will soon have good weather again.

JENNIE ATCHLEY.

Greenville, Tex., Feb. 15, 1893.

Bee-Keeping in Mississippi.

We had a very poor season in this locality last year, on account of a cold, wet spring. Our spring honey-flow usually begins about May 1st, and continues about six weeks; but last season, during the most of the time, it was cold, rainy weather, and previous to that it was also cold and wet.

Our fall flow gave the bees plenty to winter on. My surplus, last season, averaged about 16 pounds per colony. I use Root's dovetailed hives, and am well pleased with them.

I enjoy the reading of the AMERCAN BEE JOURNAL very much, and especially "In Sunny Southland" department, because there are so few in this part of our country that take any interest in apiculture. I would be glad to see more correspondence from this State. I sometimes think that the bee-keepers of Mississippi should have a convention, and try to let our brethren of other States know what we are doing, or rather see what we can do here with bees. I am satisfied that we have a very good honey country, but its resources have never been developed. Our people devote most of their time and attention to cotton.

B. F. LEWIS.

Lewisburgh, Miss., Jan. 23, 1893.

Our School in Bee-Keeping.

THIRD LESSON—PREPARING FOR THE HONEY-FLOW.

Now, as we have got both our hives equipped with two crates of sections, we will watch closely, and as soon as the top crates are finished and nicely capped clear to the wood of the section all around, take off the top one, and if the honey-flow continues, we will raise the remaining crate and place an empty one under as before; and this may be continued as long as the honey-flow lasts. Or here in the South, where one flow comes and is gone, then another comes on before the season closes, we may operate as before.

Two crates are enough to have on any hive, in my opinion, at one time, if the hives are large enough, and we attend to our business as we should.

At the close of the season, and yet before cold weather begins, if we have been successful and secured a fair honey crop, we may sell a portion of the honey, and buy two pure Italian queens from some reliable breeder, and have our bees Italianized ready for winter, and to start next spring with none but the best bees, and we have made our bees self-supporting, as well as some honey left to use, and possibly enough money to their credit to purchase next year's supplies. Snugly fix the little pets for winter, and be sure they have at least 20 pounds of honey and a moderate colony of bees; and now I leave you to run your bees for comb honey alone, next year.

PRODUCING EXTRACTED HONEY.

Now let us produce extracted honey one year. As we now know how to divide our bees, we will work the same as before until the beginning of the honey harvest, then we will place on full-sized upper stories, that is, the same size as the brood-chamber.

Lift two frames from below, and place two filled with foundation in their stead. Place the two frames of brood and bees in the upper story, and in the center, only spread them enough to allow one frame of foundation between them. Fill with frames of foundation, and when the bees get the first upper story cleverly filled, if the strength of the colony and the season or flow will justify it, raise up and place an empty one between as in producing comb honey, filled with frames of foundation as before, leaving two filled with honey as in the first one.

If it is not a powerful colony, and an extra year, you will not need more than 3 stories, and some years 2 will do.

Now listen: When the top story is full, or when the frames are about half capped, extract all the frames in it, and then by this time the bees are well started in the middle story, raise it up and put the newly extracted one in the middle, and so on as long as the flow lasts.

Do not be afaid of a little brood in the upper stories, as I allow my queens to lay where they please in running for extracted honey. Then if the brood is not where we want it, I put it so.

It will surprise you to see the amount of honey you can take from a single colony when run for extracted honey, when a good season comes. I have harvested over 500 pounds from a single colony in a single season, by the above method, but we must not expect that amount often.

Now you have a fine start, and you can Italianize as before, if you choose, and you can quit extracting a little before the harvest closes. And what a nice chance to make some fall colonies with the partly-filled combs, or what a nice start you have for next year!

Now we know how to produce honey, and I will next tell how to sell the crop, and it is a trade to produce it, and a separate trade to know how to sell it.

(Continued next week.)

Bees Stealing Honey.

Some years ago I undertook to put some of my bees on pasture, my own locality, where I lived then, being rather poor for bee-pasture. Consequently, I moved 6 colonies into a yard of one of my old friends, who lived in a country town which was located in a rich bottom. I worked 4 colonies for extracted honey, and 2 for comb honey in sections. I manipulated the bees according to the principles of the improved system of keeping bees for profit.

In the adjoining lot neighbor Jackson had a lot of black bees in box-hives. He put on his honey-boxes where he expected his bees to store the surplus honey, but never controlled swarming or anything else. During that honey season I hauled away from those 6 colonies at least 600 pounds of nice honey, when neighbor Jackson did not get any honey; but he exclaimed "that it is now plain to him, that Z.'s bees have been stealing the honey from the neighboring bees, or it would have been impossible for them to store so much honey."

The spring following I received a letter without a signature, telling me this: "If you want to save your bees, don't bring them down here again; we will not be imposed upon—pasture your own country," etc. I suppose many bee-keepers of the old school would look at the matter in the same way, at this date. MAXIMILIAN.

Shawnee, Kans.

Eggs in Queen-Cells.

I notice on page 916 of *Gleanings* for Dec. 15, 1892, an article written by Wilder Graham, who seems to convey the idea that the bees move eggs into queen-cells. My experience is different, as I know the queen lays the eggs in the queen-cells just the same as she does in other cells. You may take a queen from a colony that has a dozen queen-cells started, and you will never find a queen reared in one of them, unless it contained an egg before the queen was removed. Then if bees move eggs into queen-cells, why do they not put eggs into the queen-cells already started, rather than to start a queen-cell over an egg or larva?

An egg that is taken from any cell by a bee, is destroyed, and never is again deposited by the bee. Now, my observations may meet with opposition, but, notwithstanding, I am settled on this point. J. A.

Hybrids vs. Italians for Comb Honey.

Mr. Grover, on page 667 (1892) says: "Hybrids are better for storing honey in sections than the blacks; but for this locality I prefer Italians."

During 1892 I had a strong colony of Italians at an out-apiary, that absolutely refused to work in the sections. They cast a swarm, and partly filled two sections, but did not draw out another piece of foundation in the super. The hive rested upon eight inch blocks, and the bees left it and built combs criss-cross to the under side of the bottom-board. When I found them they had brood enough to fill two frames. As fast as brood hatched in the body, the cells were filled with honey. I put them into another hive on the same stand, and built up another colony with their brood, giving it another queen. Both are now good, strong colonies.

GEORGE MOTT, M. D.

Spurger, Tex., Jan. 12, 1893.

Most Promising Field of Labor for Apiarists.

Query 860.—In your opinion, what is the "most promising field of labor" for apiarists at this stage of the industry of bee-keeping in this country?—Missouri.

I don't know.—P. H. ELWOOD.

We don't know.—DADANT & SON.

The production of honey.—R. L. TAYLOR.

Economy—more honey. — WILL M. BARNUM.

I will not venture an opinion.—MRS. L. HARRISON.

I am not sufficiently posted to even give an idea.—J. E. POND.

The production of gilt-edge comb-honey.—MRS. J. N. HEATER.

This is a large question. An answer would be only an opinion.—EUGENE SECOR.

This is the question that would take a wiser than Solomon to answer.—JAS. A. STONE.

A very indefinite question. Rearing bees and producing extracted and comb honey, I reckon.—M. MAHIN.

Producing honey. If you mean to ask what is the best location for an apiarist, I don't know.—JAMES A. GREEN.

I don't understand the question. Try the corn-field until you can put your question in a better shape.—E. FRANCE.

To overcome the prejudice in the minds of the people as regards all liquid honey being spurious. Increase honey consumption, etc.—J. M. HAMBAUGH.

In Missouri, I don't know; but if you are in a good locality for honey, and understand how to make the bees do just about as you want them to do, you had better produce comb honey; or, if they won't mind you in that line, try extracted honey. But if I were turned loose to produce honey again, I would look upon producing comb honey as the most promising field for me, as nice section honey never goes begging for a buyer.—MRS. JENNIE ATCHLEY.

At home—in California, Florida, Wisconsin or Colorado. But almost always somewhere else than in your present location, wherever you are.—J. H. LARRABEE.

In the apiary, of course. Where else, or in what other field should an apiarist or bee-keeper labor? If you did not mean this, tell us what you did mean.—G. M. DOOLITTLE.

I hardly know what is meant by the "most promising field of labor." I will venture to say, however, queen-rearing or running a bee-paper, as the "crop" never fails.—C. H. DIBBERN.

Locality and aptitude for some other occupation must govern in all cases. Poultry-keeping in connection with fruit-raising will make a good combination in many localities.—H. D. CUTTING.

I don't know. May be washing dishes, if you're a woman. If you mean inside of bee-keeping, if there is nothing to be made producing honey, then there will be no continued profit in any other department.—C. C. MILLER.

Bee-keeping, to be sure. If other work is to be added, it must be a kind fitted to the person. For me, it is to teach; for Hutchinson, to edit a paper; for Bingham, to make knives and smokers. The thing, in short, that one can do best.—A. J. COOK.

It might be best to go at something else. But in the bee-business I should produce comb and the article extracted, in proportion of one-third of the former and two-thirds of the latter. That has been my plan for a number of years, and it has paid me reasonably well.—G. W. DEMAREE.

I don't understand the question, but will venture to say: Secure all the honey you can in such shape as will best suit your market, and then trade or sell to the best advantage. This plan will likely "promise" the best—if not better than any other rural industries.—J. P. H. BROWN.

I can hardly tell from Query 860 just what you mean. If you mean whether you should produce comb or extracted honey, you will have to determine that by your taste and market. If you mean the best location, look for one with plenty of basswood, clover and wild-flowers, and five or more miles from any large bee-keeper.—S. I. FREEBORN.

Report of the Vermont State Bee-Keepers' Convention.

Written for the American Bee Journal

BY H. W. SCOTT.

At the 18th annual convention of the Vermont Bee-Keepers' Association about 35 members met in the parlors of the Van Ness House, in Burlington, Vt., on Dec. 28, 1892.

The meeting was called to order by President V. V. Blackmer, of Orwell. Prayer was offered by R. H. Holmes, of Shoreham, after which the minutes of the last meeting were read and approved. The President appointed the following committees:

On Nominations—O. J. Lowrey, of Jerico; E. J. Smith, of Addison; and M. F. Cram, of West Brookfield.

On Resolutions—R. H. Holmes, of Shoreham; W. G. Larrabee, of Larrabee's Point; and J. W. Smith, of Moscow.

The report of the Treasurer showed a small surplus, and the report was approved.

J. H. Larrabee, of Larrabee's Point, being unable to be present, the topic on which he was to speak, was passed over.

BEE-KEEPING AT THE VERMONT AGRICULTURAL COLLEGE.

T. H. Wheatley, of Burlington, spoke on "The Possibility of Bee-Keeping at the Vermont Agricultural College Experiment Station." He told of the efforts he had made to get a few colonies of bees to the station, and his subsequent work with them. Lack of time had somewhat curtailed experiments. Those connected with the station seemed not only willing, but anxious to aid the bee-keepers all that lay in their power, and he did not doubt that some day in the near future, the best honey State in the Union would have a well equipped apiary for experimental work at the State College.

President Blackmer thought that bee-keepers have been altogether too modest in asking for proper recognition by those in authority. He thinks it is time we ask for our fair share of the moneys appropriated for experimental work.

Some one suggested that a few prominent apiarists be employed to conduct experiments, keeping an accurate account of the same, and be paid for their reports, which reports might be compiled in a bulletin. This was thought to be hardly feasible, as there are so few that would have sufficient appliances to conduct certain experiments.

A committee being appointed for the purpose, visited the Station, made an estimate of the cost of increasing the apiary there to a sufficient size as to be serviceable, and the cost of an Expert Director for the same one year. Their report being received by the convention, a special committee was appointed, to hold office one year, and to confer with the Board of Control of the College. Committee—J. H. Larrabee, F. M. Wright and M. F. Cram.

PERFORATED ZINC AND ITS USE.

Mr. O. J. Lowrey gave an interesting talk on "The Advantages and Disadvantages Attending the Use of Perforated Zinc." He first tried queen-excluders in hiving swarms in contracted brood-nests. He prefers the zinc-wood slatted honey-boards, because they prevent burr-combs. He had used the zinc in drone-traps in out-apiaries, also in caging queens in sections. He has had very little trouble in queens going through the zinc, but thinks that there are different sized queens as well as perforations in zinc. Queen-excluders would be a disadvantage if used before swarming.

W. G. Larrabee had used queen-excluders in working for extracted honey, and could scarcely do without them.

HOUSE APIARIES, ABSORBENTS, ETC.

The address on "House Apiaries and How to Use Them," was a very interesting one, given by H. P. Langdon, of East Constable, N. Y. His description of a model house for 200 colonies was illustrated by drawings which made all very plain. He has used it but one season, but likes it so well that he could not be induced to change.

The question of absorbents and upward ventilation was discussed. Many believed that they had been given too much upward ventilation, and had concluded that a circular hole in the honey-board, 3 inches in diameter, is sufficient.

EVENING SESSION.

Eight new members were added to the rolls at this session.

The reports of the members were given, and showed a rather poor season. The number of colonies was increased from 1,382 to 1,823; and 20,548 pounds of comb honey, and 4,100 pounds of extracted honey was reported. There were three other large bee-keepers, unable to be present, who were known to have over 1,000 colonies of bees, and a honey crop averaging with those reported.

THE REARING OF QUEEN-BEES.

H. W. Scott read an essay on "Queens," which was discussed at length. Few thought forced queens as good as those reared in the natural way during the swarming season. Some had just as good, and others perferred to hatch their queens in a nursery, since they could then select those that looked the best. Some thought that queens reared in a poor season were liable to be inferior to those reared in a good season, while others could see no difference.

MIXTURE FOR SPRAYING POTATOES.

Mr. Crane not being present, Prof. L. R. Jones, of the Agricultural College, was called upon in regard to the spraying of potatoes with a mixture containing molasses and poison. The mixture is used to spray the potato tops in July and August to prevent blight. Prof. Jones was not sure that the addition of the molasses was of any value, and he thought it was qulte probable that it would be unnecessary to use it. The association adopted the following resolution in regard to the matter:

Resolved, That we as bee-keepers apprehend danger from the addition of sugar to poisonous solutions used in spraying potatoes.

A vote of thanks was also tendered to Prof. Jones, in recognition of his evident willingness to assist the bee-keepers.

MORE UNION AMONG BEE-KEEPERS.

The discussion on, "How Shall We Create More Union Among Bee-Keepers?" was more of a rambling talk than discussion. The necessity of urging fellow bee-keepers to attend the annual meetings, was one good point. The harm done by small producers selling honey at a very low figure, thus destroying the market and the possibility of forming some union to buy up such honey, was talked over.

SECOND DAY—MORNING SESSION.

A discussion of the Porter bee-escape brought out the fact, that they are the best escape yet used by any members of this Association; especially in the taking off of extracted honey they are almost indispensable for rapid, easy work. There is a difference in seasons as to the time it takes for the bees to pass through the escapes.

VERMONT WORLD'S FAIR APIARIAN EXHIBIT.

The World's Fair Committee reported that it had been difficult to get any definite answer from the State Commissioners. The latest letters had been more favorable, and he thought it would be possible to send an exhibit if we could get a small appropriation. There was some doubt as to space being assigned to hold until July, the earliest date that it could be filled by Vermont honey. It was the general opinion that there would be room found for it, if an exhibit of Vermont honey should be sent at any time.

O. J. Lowrey and V. V. Blackmer were added to the committee of last year, which was R. H. Holmes, J. E. Crane and H. W. Scott; and the committee was elected and given power to act for the Association in all matters relating to an exhibit of honey at the World's Fair under the auspices of the Vermont Bee-Keepers' Association; to secure moneys and honey for an exhibit, etc.

ELECTION OF OFFICERS.

The committee on nominations reported the following for officers:

President—W. G. Larrabee, Larrabee's Point.

Vice-Presidents—Addison county, E. J. Smith, of Addison; Chittenden county, O. J. Lowrey, of Jerico; Franklin county, F. M. Wright, of East Enosburgh; Lamoille county, J. W. Smith, of Moscow; Orange county, M. F. Cram, of West Brookfield; and Rutland county, H. L. Leonard, of Brandon.

Secretary and Treasurer—H. W. Scott, of Barre.

The report was accepted, and the Secretary instructed to cast one ballot for the same, which, being done, they were declared elected.

Besolutions were reported and adopted as follows:

Resolved, That we as bee-keepers here assembled feel thankful to the Almighty Father for our health, happiness and prosperity; and, that we are permitted to meet for the improvement of our

minds and the advancement of our profession; and hope that we may have many more years of health and happiness.

Resolved, That we express our hearty thanks to the C. V. R. R. Co., for their accommodations, and to the proprietor of the Van Ness House for our cordial entertainment, and the use of the room for holding the meeting, and to the Executive Board of the Association for their untiring efforts in preparing the programme, and giving the report of the last meeting; and to all the members and others who have helped to make this meeting a success; especially to the authorities at the Vermont Experiment Station for their inclination to recognize our pursuit.

This resolution was passed:

Resolved, That it having come to our knowledge that the firm of Blake & Ripley have reduced their commission for selling honey to 5 per cent., it is the sense of the bee-keepers in convention assembled that we express our thanks to this firm and any or all others that have made this reduction in their commission.

FEEDING BACK EXTRACTED HONEY.

A very interesting discussion on "Feeding Back Extracted Honey to Get Partly Filled Sections Completed," brought out many facts relating to the practice. To make it a success it should be done as soon as possible after the honey-flow ceases. The brood-nest should be contracted, and as few colonies used as is consistent. The honey should be slightly diluted, and fed rapidly. It is not advisable except with sections nearly full, at present prices of comb and extracted honey.

FEEDING BEES FOR WINTER.

R. H. Holmes thinks that feeding for winter does not pay ordinarily. Much is due to locality. Where it is necessary to feed he advises doing so the first of August, or after breeding is over. He does not wish for late breeding. Feed rapidly, and do not disturb the brood-nest after feeding. If it becomes necessary to give combs of sealed honey after cold weather comes, place them at one side of the cluster, but do not break the cluster.

RELATIVE PROFIT OF COMB AND EXTRACTED HONEY.

W. G. Larrabee gave some facts in regard to the relative profit of comb and extracted honey. He finds the profit depends upon circumstances. A man with only one yard of bees and plenty of time can get pay for his time in working for comb honey. If he has out-apiaries he must hire help, or run them for extracted honey. A good crop of extracted honey can be secured in an out-apiary. Honey can be secured in an out-apiary with very little labor, and at more profit than comb honey would give after paying for the extra work. He has to use queen-excluders. The cost of crating it is much less. There is scarcely any swarming.

MISCELLANEOUS QUESTIONS.

The question of contracting the brood-nest during the honey-flow was discussed. All seemed to agree that more honey could be secured, and of better shape, yet it necessitated feeding for winter, and this is objectionable.

Can more comb honey be secured by using the two-pound sections? was answered thus: Yes, but the less price and the uncertain market is a bar to their use now.

The adulteration of honey is unknown in Vermont. The law of 1884 was read by the Secretary, which provides a fine of not less than $35 for adulteration, or knowing sale of adulterated honey. It was thought that this law is sufficient to prevent any adulteration.

The next meeting will be in January, 1894, at Burlington.

The business being finished, the convention adjourned.

There was an informal meeting in the afternoon, when a social visit was enjoyed by those present.

H. W. SCOTT, *Sec.*

Convention Notices.

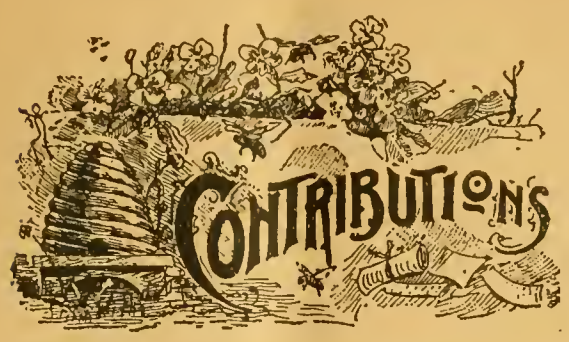
NEW YORK.—The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.

H. C. FARNUM, Pres., Transit Bridge, N. Y.

TEXAS.—The Texas State Bee-Keepers' Association will hold its 15th annual convention in Greenville, one mile north of the Court House, at the apiary of Mrs. Jennie Atchley, on Wednesday and Thursday, April the 5th and 6th, 1893. One of the biggest bee-meetings ever held in the South is anticipated. Everybody is invited. No hotel bills to pay. Come one, come all, and let us have a lovely meeting, and an enjoyable time. All bee-keepers invited to bring along something to exhibit.

A. H. JONES, Sec.
Golden, Texas.

"Bees and Honey"—page 261.



Further Details of Packing Bees for Winter.

Written for the American Bee Journal
BY JAMES A. GREEN.

(Continued from page 244.)

The outer cases which I use for packing 4 colonies were made of some refuse inch lumber I happened to have. The only objection to the use of such lumber is its weight—a matter of little consequence when two can work together in packing and unpacking. If new lumber is to be used in making them, I would get common lumber, and have it split and planed on one side. Packing cases made of such lumber are lighter, easier to handle, and may be kept neatly painted if desired.

I formerly advocated making outer cases of lath, and most of my boxes for packing single colonies are made of that material. Lath is the cheapest material that can be used for the purpose, and it has some other good points in its favor; but all things considered, I would prefer to use wider and better lumber.

The boxes are made of such size that when put over the hives there is a space of 4 inches for packing all around the outside of the hives, and 8 inches on top. This space is quite sufficient to allow the use of coarse packing material, such as planer shavings, leaves, straw, or any other material of this nature that is easily obtained. Where sawdust can be easily obtained—it is somewhat expensive, and hard to get here—it is perhaps better than a looser and more open material. When it is used, the thickness of the packing may be somewhat less—say 2 or 3 inches at the sides, and 6 inches on top.

The wintering cases that have been offered for sale by several supply dealers are not large enough to admit of a sufficient quantity of packing material, especially on top.

Chaff is a good packing material as long as it is kept dry. A serious objection to its use, sometimes, is that the grain which it is apt to contain attracts mice, which often find their way into the hive and greatly injure or destroy the colony.

Perhaps the best packing material, cost not taken into consideration, is ground cork. Cork is specially valuable to those who think it necessary to use a porous covering for the top of the hive, with some absorbing material, in order that the moisture generated by the bees may pass off in this way. This is something that I consider entirely unnecessary. In preparing my bees for winter I leave on the flat board cover that covers the top of my hives, and usually this is sealed down tight, which is the way the bees will always have it if they are given the opportunity before cold weather comes.

I will say right here, though, that I believe that bees will go through the winter just as well if a porous covering is used, which, while not permitting a draft, allows a very slow circulation of air that will carry upward the moisture of the hive. With very large hives having only a small entrance, perhaps this is the best plan. But as soon as the bees begin to rear brood in the spring, it is very desirable that the hive should be perfectly tight on top. As I do not believe in disturbing bees in early spring to make any changes in their hives, I prefer to have the top sealed down tight at all times, and avoid, as far as possible, loosening the covers after the bees have sealed them down tight in the fall.

Some inquire if a dead-air space would not be as good as the more troublesome packing. Dry air is a most perfect non-conductor, and in all our packing the air that is contained in the interstices is of more value in retaining heat than the packing material itself. A perfect dead-air space, if it could be secured, would be as good a protection against cold as could be devised. Practically, though, a "dead-air space," as a protection against cold, is an impossibility.

Heat is conveyed not only by conduction and radiation, but by "convection," the name given to that process by which heat is carried by moving particles of air, or other gas or liquid. If a body of air is confined between two walls, even though the enclosure is perfectly air-tight, if one wall is warmer than the other, or any part of the interior, currents of air will be set up that will carry the heat to the colder portions. Particles of air coming in contact with the warmer wall are heated, and rise. Their place is taken by colder particles,

and this procession of heat-bearing particles of air is continued until there is a perfect equilibrium of heat throughout the enclosure. To obtain the full benefit of the non-conducting qualities of air, we must therefore confine it into very small spaces, so that any motion of its particles may be as far as possible prevented. Other things being equal, that is the best non-conductor that contains most air, finely divided and incapable of motion.

Mr. M. M. Baldridge has very kindly sent me samples of a paper roofing that he has used for covering packing cases, that is certainly far superior to anything of the kind I ever saw before. It is called "Bodine Roofing." The cost is said to be about the same as good shingles. It would be much lighter, and is apparently very durable. It is likely that it might be profitably used for covering bee-hives instead of tin. It is made for roofing in sheets 26x38 inches, and is made to lap much the same as roofing iron.

A correspondent on page 151 advises packing 8 colonies in one box. There would indeed be economy of heat, and in the material required for making such packing boxes. But such boxes would, from their size, be much more unwieldy, especially the covers. The disturbance of the bees, which is unavoidable in all handling where more than one colony is packed in a box, would be doubled. Eight hives would be too many to have in a group for summer, and it would be troublesome to move that number close together from ordinary positions. They could not be placed so as to form a compact bunch, with the entrances on all sides as he suggests, unless half of them had the entrance at the side of the hive, which would not be desirable. Neither do I think it would be best to have any face the north, nor would it be convenient to work around hives that could be reached only from the front.

Ottawa, Ills.

Bee-Hives—A New One that May Prove Valuable.

Written for the American Bee Journal

W. J. CULLINAN.

Notwithstanding all that has been said and written to the contrary, and the slight importance attached to this very important part of the machinery of practical apiculture, I am inclined to believe that the kind of hive we use has as much to do with our success, comparatively speaking, as the kind of bees we keep; and not only does the hive cut an important figure in the successful keeping of bees, and the economical production of honey, but the frame also, and the two together go a long way toward solving the problem of cheap production; and since it is only by cutting down the cost of production that we can cope with a declining market, and get any profit out of the business, this question of *cheap production* becomes of paramount importance. I hold that the first move in the direction of cheapening production is to lessen labor; and how shall we expect to lessen labor except through ease and rapidity of manipulation?

If we can so construct our hives and frames (of the latter I may speak later), and change our manner of manipulation that one man can do the work of two, and at the same time obtain as good or better results than formerly, may we not add the wages of one man for every day we work in the apiary to our former profits? Of course it will cost something to make the change; but suppose it costs all of the extra profits the first year, we are really not out anything, and we can put those extra profits into our pocket each year thereafter, and be greatly benefited.

According to my notion, a bee-hive for the general bee-keeper should possess at least these three essential features:

1st. The successful wintering and springing, and comfortable summering of bees out-of-doors, without other protection than the hive, for so most of the bees are kept.

2nd. The encouragement of brood-rearing to the highest possible degree at certain times, as the case requires.

3rd. It should be light, and subject to easy and rapid manipulation at all times.

It is claimed by many that bees winter as well in single-walled as in double-walled hives, but I am inclined to doubt it in case of severe winters. I have tested them side by side, but not in a severe winter, and while they did go through the winter in the single-walled hives in about as good condition, they fell behind very appreciably when spring came, and did not come up to the honey-flow in as good condition by one-third as they did in the double-walled hives. And now, after an experience of four years with the same, my preference is for a thick-walled hive—especially where they are to stand out-of-doors the year

around; in other words, where you want an all-purpose hive.

The shallow sectional hive which admits of the easy, gradual and at the same time highest expansion of the brood-chamber at the proper time, and its sudden contraction at the beginning of the honey-flow, and entailing the smallest possible outlay of time and labor will, in the course of time, command more attention than it does at present. But the shallow sectional hive as heretofore constructed has, so far as I can learn, always been a thin-walled hive; and this, while it facilitates manipulation, necessitates packing in the fall, and unpacking in the spring, thereby entailing considerable extra labor. What we want in an all-purpose, out-door hive is a sectional hive so constructed as to be capable of resisting the extremes of heat and cold, without the expense of outside cases, or the trouble of packing or unpacking.

Mr. Henry Hayck, an Illinois bee-keeper, has lately devised and constructed a hive which fills the bill more nearly than anything I have yet seen. In its construction, which is both simple and practical, it combines, to a wonderful degree, the advantages of the old straw skep of Germany with those of the modern sectional hive. It is a sectional hive with thick walls; the sections are 7 inches deep (but may be made of any depth desired), 1½ inches thick, and made of straw. The walls being thick, it resists heat and cold as well as a chaff hive. The sections being light, may be as easily and rapidly manipulated as any sectional hive made of boards. The exterior being reasonably smooth, may be painted, and Mr. H. says it will last as long, if not longer, than the average board hive.

The Hayck Brothers have used this hive in their apiary side by side with the Heddon, American and Langstroth, and they give it the preference over either of the others. The present very severe winter will show which is the better winter domicile for the bees.

I have no interest in this hive only as it interests bee-keepers in general, but I do believe it is going to meet a long-felt want in the line of a cheap, easily manipulated and practical general-purpose hive. It may be made to take either the hanging or standing frame, and the thickness of the walls may be modified in thickness, I believe, to suit the notions of the individual bee-keeper.

Adams Co., Ills.

Things Learned from Experience in Wintering Bees.

Written for the American Bee Journal

BY O. S. BROWN, M. D.

For the past six years I have been experimenting as to which was the best to place absorbents or non-absorbents directly over the cluster. Thinking that the information thus gained would be of interest to readers of the BEE JOURNAL, I will give the various things tried, and the conclusions drawn from these experiments.

I have tried, thick and thin boards, with and without chaff covering then; layers of old newspapers covered with chaff; mats of brussels carpet and burlap covered with chaff; oil-cloth covered with chaff; Hill's method and short sticks across the frames, with all the above excepting board covers; also laid covers flat upon the frames; oats, wheat and timothy chaff, finely cut; hay and oats, or wheat straw, forest leaves; old rags, old papers torn into bits; planing mill shavings, and dry sawdust, excelsior, and several layers of old carpet.

From all the experiments, I have gleaned the following facts about wintering bees in this locality:

1st. That next to plenty of good stores, the next most important requisite to safe wintering is—to have warm, dry absorbents placed directly over the cluster, so that this material will absorb all moisture given off by the bees.

2nd. That it makes but little difference what the absorbent is composed of, so that it will readily absorb, and that the hive keeps it from outside moisture.

3rd. That the absorbents must not be placed too thick, or the moisture will not pass through them.

4th. That it is better during the winter, whenever a bright, warm day comes, to remove the top of the hive, and let the sun shine directly upon the absorbents for some hours, to dry the moisture found collected on top of the absorbents.

5th. That it is better to have the absorbents in the form of mats or cushions, for convenience.

6th. That it is of no benefit to use cross sticks or Hill's device under the absorbents, nor to make winter passages in the combs; for the bees will winter just as well without of any of these.

7th. That for all ordinary-sized colonies, it is useless to remove the brood-frames and replace by absorbents or solid division-boards.

8th. That in this locality it makes but little difference whether a single or double walled hive is used, having air space or chaff packed, just so the absorbents are placed over the cluster.

9th. That unless you "sun" and air the packing frequently during the winter, your bees will suffer from dampness.

10th. That the absorbents are of much benefit in the late spring to protect the brood from the sudden changes we have here.

Londonderry, Ohio.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Bees are All O. K.

My bees are all O. K. at this writing, in the cellar. I had 5 colonies, and bought 4 more of Italians at an auction for $21. JNO. H. RUPP.

Washington, Kan., Feb. 4, 1893.

Skunks in the Apiary, Etc.

There are a great many skunks where I live. Mr. H. C. Farnum says that they dig at the front of the hive. He did not say where it was—in the dirt, or whether they dug at the hive-entrance. We are now having some cold weather, but the bees have begun to rear considerable brood. T. W. WHEELER.

Menardville, Texas, Feb. 3, 1893.

Cold Weather Long Continued.

I have just looked my bees over after our unusually long spell of cold weather, ranging from 13° below zero to a few degrees above, and I find those with sealed covers in bad condition, and several colonies dead, that had plenty of bees and an abundance of stores. The hives were nearly full of frost and ice, while those with cushions on top so far are all right, with little frost in the hives. My hives are double, with so-called dead-air space, and with cushions on; last winter they wintered nicely. I do not think I shall care to try the Root's sealed covers any more.

Bees have not had a chance to fly here since the first of November, and I fear if this cold weather lasts much longer without a chance for them to have a cleansing flight, there will be few colonies left in the spring. What bees are kept in this vicinity are wintered out-of-doors. We do not get the large amounts of honey here in southern New Hampshire that they do in many places. Last year my surplus averaged about 25 pounds per colony, spring count, about half extracted, with about 25 per cent. increase of colonies.

GEO. S. WHEELER.

New Ipswich, N. H., Feb. 8, 1893.

Did Well for a Poor Season.

I have been keeping a few colonies of bees several years, and concluded to increase the number last spring. Last summer I had 6 old colonies, and 6 first swarms, which stored 320 pounds of honey, and it was a poor season. I have 16 colonies in the cellar now.

S. M. ROBERTSON.

Grey Eagle, Minn., Jan. 28, 1893.

Bees in Fine Condition.

My bees, at present, are in fine condition on the summer stands, packed in fine hay, and a roof over to keep all dry. I got about 50 pounds of comb honey to the colony, spring count, last year. All have plenty of honey to winter on, and of a good quality. Bees are not so plentiful now as they were 18 months ago. We have had plenty of zero weather for the last two months.

LEE POWELSON.

Batavia, Iowa, Jan. 31, 1893.

Bees Tryiug to Get Out of the Hives.

I started last spring with 3 colonies of bees, and of course I wanted to increase the number, so I did not put on the surplus cases until late, and, to my surprise, they did not swarm, and did not store one ounce of surplus honey. But they have plenty of stores for winter. I bought 9 colonies more last fall, of my neighbors, which I think will give me a good start for next spring, if I have success in wintering.

They are all packed in straw, with chaff cushions on top. But the 9 colonies I bought last fall do not act right—

they are all the time trying to gnaw out every time the weather slacks a little, so they can stir out a peg. I have a fine screen tacked over the entrance, so they cannot get out. An old bee-keeping friend told me that he never had good luck in wintering a colony of bees when they acted like that; they always died out in the spring; so this somewhat discourages me. If any other bee-keepers have had such experience, I would like to hear from them through the BEE JOURNAL. CHAS. C. CHAMBERLIN.

Romeo, Mich., Feb. 4, 1893.

Pretty Cold for the Bees.

I started last fall with 90 hives well stocked with bees. They had a flight the last of November, and since then there have been very few days that the temperature has been above 40°. It has been so cold that the ice has formed in the hives so that I cannot poke the dead bees out as I usually do. This morning the temperature was 2° below zero, with the wind in the west, and blowing quite hard. If this weather continues, I think there will be a market for all the honey the bees gather the coming season. EDWIN HUTCHINSON.

East Avon, N. Y., Feb. 8, 1893.

Colonies in Good Condition.

I have kept bees for 15 years, but previous to my sending for the BEE JOURNAL, three years ago, I knew little about caring for them, except what I learned by experience. I had them in old-fashioned hives, and got little honey; now I have all in Langstroth hives. I have 25 colonies in good condition in the cellar, in a room partitioned off on purpose for the bees. I have a good cellar, and have always had good luck in wintering them in the cellar. We got no surplus honey last year, and this was the third poor honey season. I could not keep bees very well without the BEE JOURNAL. Every bee-keeper should take it. L. A. STICKNEY.

Plainview, Minn., Jan. 30, 1893.

Coldest Winter in Tennessee.

We have to record the coldest winter here for years. The thermometer, in places, has registered as low as 28° below zero. Hundreds of colonies of bees have been lost by freezing. In this latitude bees are generally wintered on the summer stands, without any extra preparation for winter, but this season shows the necessity of more attention. So far, I have lost none. I began the winter with 30 colonies, on the summer stands, packed with chaff division-boards on each side, with a device similar to the Hill device, and chaff cushions over the brood-chamber. The estimate now is that from 40 to 50 per cent. of the bees of this section have frozen. The temperature here very rarely goes to zero. The lowest last winter was 10° above zero. H. F. COLEMAN.

Sneedville, Tenn., Jan. 27, 1893.

Commencing to Keep Bees.

Bee-keeping here is only just commencing in the country. There have been bees in the neighboring towns, but for the most part they have been more ornamental than profitable. The bees themselves have lately been trying to break into the country. I gathered 4 colonies out of the woods last summer (a small strip of timber along a creek) on my farm, and on an adjoining ranch within 2 miles there are 100 acres of alfalfa, besides red clover. Our merchants supply their customers with Chicago honey, and I see no reason why we cannot produce our own honey if we give bees the same care and intelligent attention that we do other stock.

D. J. FRASER.

Peabody, Kans., Feb. 6, 1893.

More than Made Expenses.

Three years ago I started with 3 colonies of Italian bees, which increased to 18 during the last three summers. My best colony, last summer, gave me a surplus of comb honey in sections of 54 pounds, and 80 pounds of extracted honey. The poorest colony gave me no comb honey, and 20 pounds of extracted honey. Bee-men around here say the last two summers were poor for bee-keeping. I had my own honey and made expenses. For my work I have 18 colonies on movable-frames, in two story double-walled hives, with plenty of stores, in good condition for winter.

HENRY BOHLMANN.

Defiance, O., Jan. 30, 1893.

Wintering Nicely—Late Queens.

My 200 colonies of bees are wintering nicely. We have had a very severe winter. Bees were confined to their hives without a flight for six weeks or

more. A few days ago we had a little summer weather, which gave me an opportunity to examine them somewhat. My full colonies were in good condition, but I am trying to winter some 50 nuclei colonies which were used for late queen-rearing, which did not do so well. I am wintering 12 nuclei with very late queens. The queens I thought were too late to be fertilized, as I could not find a single drone, yet to my surprise, when examining them, they had young bees hatching in January. How is that? My bees are all on the summer stands, with the exception of the 12 nuclei colonies referred to. CHAS. H. THIES.

Steeleville, Ills., Feb. 6, 1893.

Mesquite as a Honey-Plant.

All over this southwestern country there grows a scrubby tree called "mesquite," and I want to ask the bee-keepers of Texas and Arizona what they know about mesquite as a honey-producing plant. I have had some evidence on the question, but not enough to be entirely satisfactory. I am of the opinion that it outrivals the basswood of the North, both in quantity and quality, and that the reason it has not been more noticed is that it comes before the average bee-keeper has bees to gather the harvest, and consequently they have not found out that they were losing anything, or that the mesquite is a plant that yielded nectar. It covers a vast area of country that is almost entirely unoccupied by bee-men. I estimate the extent of the region where this tree grows to be not less than one million square miles. J. G. STEWART.

Las Cruces, New Mex., Jan. 30, 1893.

Wisconsin Honey Exhibit.

I think the Wisconsin Bee-Keepers' Association are fortunate in securing the services of Mr. Franklin Wilcox, of Mauston, Wis., to take charge of their honey exhibit at the World's Columbian Exposition. Mr. W. is a bee-keeper of large experience and sound judgment, and thoroughly qualified for the position. It is sincerely hoped that all Wisconsin bee-keepers will co-operate with him in order to make the bee-keepers' department of the Exposition a grand success. The Executive Commissioner of the World's Fair for Wisconsin—Hon. R. B. Kirkland—has placed the honey display of Wisconsin in charge of the State Bee-Keepers' Association, and all who wish to participate in the honey exhibit of Wisconsin must address the agent of the association, or its Corresponding Secretary (your humble servant), who will give you full information regarding the subject.

Madison, Wis. J. W. VANCE, M. D.

Gathering Honey in Florida.

Bees are gathering honey very fast from peach-bloom and the ti-ti. They carry in very pretty pollen, and drop down at the entrances of their hives like shot. The bees of this locality, with few exceptions, are the common black bees. The honey of this land is good, yet bee-culture is in a very backward condition. The weather is so lovely here that it does not seem possible that my bee-friends in the North are in the midst of snow and ice.

MRS. L. HARRISON.

St. Andrew's Bay, Fla., Feb. 22, 1893.

[We were pleased to get the above from our friend, Mrs. Harrison, from her Southern home in the winter. How delightful it must be where she is. We just wondered if she wouldn't favor her BEE JOURNAL friends with an occasional note from that "Land of Flowers" and honey. We are sure all would enjoy reading anything that she might choose to send.—ED.]

Bee-Keeping in "Egypt."

My bees are doing well. They had 3 or 4 day's flight, after prolonged zero freezing. They are on the summer stands without any protection. My neighbors say they lost almost all theirs this winter. I owe my success to reading the BEE JOURNAL and other bee-literature on feeding and ventilating. I am well pleased with the BEE JOURNAL; I can't get along without it. We got scarcely any honey in 1892; 1891 was a glorious year down here in "Egypt"—would like to see 1893 likewise. I have the little brown bees—4 colonies in movable-frame hives, and 11 in box-hives. I will get them all into frame hives in the spring. I would like to Italianize my bees. ALLEN SPRINGER.

Rose Bud, Ills., Feb. 3, 1893.

Have You Read that wonderful book Premium offer on page 261?

AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

56 FIFTH AVENUE, CHICAGO, ILLS.

Special Notices.

The Date on the wrapper-label of this paper indicates the *end* of the month to which you have paid for the JOURNAL. If that is past, please send us one dollar to pay for another year. This shows that Mr. Porter has paid his subscription up to the *end* of December, 1893:

Wallace Porter Dec93
Suffield, Portage co, Ohio

Local Checks.—Please do not send us checks on local banks. We have to pay from 15 to 25 cents each to get them cashed here, which is quite a useless expense, when you can either send money by registered letter, or get an express or post-office Money Order. We *prefer* the express Money Order, if you can get that; otherwise the post-office Money Order or registered letter.

The Silver Cross, the official organ of the "International Order of The King's Daughters and Sons," is the only journal that publishes the Popular Drawing-Room Bible Talks of Mrs. Margaret Bottome, President of the Order. For many years Mrs. Bottome has inspired large audiences to noble living and unselfish service by these familiar talks on Scripture topics. They have been stenographically reported and revised by the author for *The Silver Cross*. This magazine is the only medium of interchange between members of the Order. Address, Silver Cross Pub. Co., 158 W. 23rd St., New York.

"Bees and Honey"—see page 261.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.
April 5, 6.—Texas State, at Greenville, Tex.
A. H. Jones, Sec., Golden, Tex.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Annual Catalogues or Price-Lists we have received from—

Geo. E. Hilton, Fremont, Mich.—Apiarian Supplies.

George Rall, Frenchville, Wis.—Apiarian Supplies.

J. D. Givens, Lisbon, Tex.—Golden Italian Queens.

Vaughn's Seed Store, Chicago, Ills.—All kinds of Seeds.

M. H. Hunt, Bell Branch, Mich.—Bee-Keepers' Supplies.

James Vick's Sons, Rochester, N. Y. All kinds of Seeds.

Green's Nursery Co., Rochester, N. Y.—Fruit and Flowers.

St. Joseph Apiary Co., St. Joseph, Mo. Bee-Keepers' Supplies.

J. F. Michael, German, Ohio.—Golden Italian Queens and Bee-Supplies.

J. D. Goodrich, East Hardwick, Vt.—Foundation, Sections, Hives, and other Apiarian Supplies.

Chas. H. Thies, Steeleville, Ills.—Apiarian Supplies, Golden Italian Queens, and Pure Bred Poultry.

Chicago Bee-Keepers' Supply Co., Topeka, Kans., and Chicago, Ills.—General Supplies for Bee-Keepers.

Leahy Mfg. Co., Higginsville, Mo.—Bee-Hives, Bees, Queens, Honey, Beeswax and Bee-Keepers' Supplies.

Have You Read page 261 yet?

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, February 25th, 1893 :

CHICAGO, ILL.—There are occasional sales of best grades of comb honey, but the retailers are not yet sold out on supply laid in before the holidays. Prices are a little easier, especially on that which will not grade "fancy"—such brings 17@18c., and other grades 12@16c. Extracted, 6@9c., as to quality.
Beeswax—22@25c. R. A. B. & Co.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It selis readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½ ; dark, 6@7c. Beeswax—23@25c. J. A. L.

CINCINNATI, OHIO.—Demand from manufacturers is slow, but the demand is good for extracted for family use. It brings 6@8c.—No good comb is on our market. It would bring 14@16c.
Beeswax—Demand good, at 23@25c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand. B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

ALBANY, N. Y.—Our stock of honey is light and also receipts. Demand keeps up better than usual this season. We are selling white comb honey at 14@16c.; mixed, 12@13c.; dark, 10@11c. Extracted, white, 9@9½c.; mixed, 7½@8c.; dark, 7@7½c. Beeswax, 28@30c. H. R. W.

Please Don't send to us for bee-keepers' supplies. We do not deal in them. If in need of anything for the apiary *except a good bee paper or book*, just send for the catalogues of some of our advertisers. They will be glad to fit you out, and do it well.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.
J. A. LAMON, 44 & 46 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & Co., 14 & 16 Hennepin Avenue

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. Co., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

"The Winter Problem in Bee-Keeping" is the title of a splendid pamphlet by Mr. G. R. Pierce, of Iowa, a bee-keeper of 26 years' experience. It is 6x9 inches in size, has 76 pages, and is a clear exposition of the conditions essential to success in the winter and spring management of the apiary. Price, postpaid, 50 cents ; or given as a premium for getting one new subscriber to the BEE JOURNAL for a year. Clubbed with the BEE JOURNAL one year for $1.30. Send to us for a copy.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

WANTED—A second-hand Barnes' Circular Saw. W. J. SHELDON, Parker, S. D.

WANTED—Every bee-keeper to see the cut of best Starter Fastening Machine made. Your name on a card will get it.
CHARLES WHITE,
8A2t Aurora, Nebraska.

TO EXCHANGE—A 4¼ x 6½ Photograph Outfit, for Honey Extractor, or other Apiarian Supplies. Address,
CURTIS HUNT,
9A1t Durhamville, N. Y.

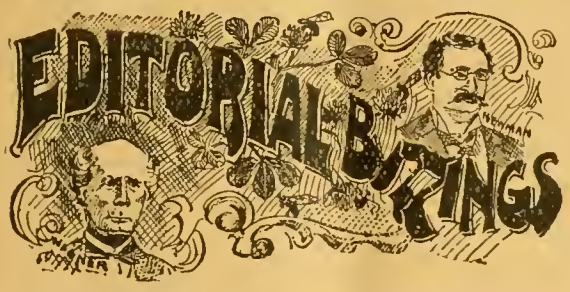
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., MARCH 9, 1893. NO. 10.



"**There is No Friend** like the old friend
who has shared our morning days,
No greeting like his welcome, no homage like
his praise;
Fame is the scentless sunflower, with gaudy
crown of gold;
But friendship is the breathing rose, with
sweets in every fold."

Your Attention is called to the advertisement of Mrs. J. P. Cookenbach, on page 291 of this issue of the BEE JOURNAL. If you wish to secure good accommodations in advance of coming to see the World's Fair, just write to her, and she will be glad to help you, and see that you are well cared for. Mrs. C. is a splendid christian woman, whom we have known for five or more years, hence we feel that we can recommend her to you.

Partly-Filled Sections.—The following sentence appears in a catalogue and price-list for 1893: "As there are many who will no doubt try the experiment of feeding sugar-syrup for the purpose of having partly-filled sections completed, to such I would recommend my new feeder, as they were invented with this purpose in view." In view of the fact that practically all have agreed that it is not well to do anything to encourage sugar-honey, we must implore all who have any spark of honor not to jeopardize the business of honey-producing for the paltry sum to be obtained from selling a few feeders or models. It is safe to say that the great mass of bee-keepers would call loudly to keep *out of view* any feeder invented with such a "purpose in view."

The Bee-Keepers' Review for February is perhaps the most valuable number yet issued by Mr. Hutchinson. Hon. R. L. Taylor's first article under the head of "Timely Topics," is packed with hints that are seasonable, and also well seasoned. "Rambler" gives one of his usual interesting articles on the "Pacific Coast, its Magnitude and Honey-Pasturage." These are only two of the many "meaty" articles and items contained in that issue.

Since publishing our "final statements" on page 231, we have received a long letter from Mr. Hutchinson, and also one from Prof. Cook, in reference to the late utterances in the BEE JOURNAL upon the sugar-honey question. It seems that the opinion prevails to some extent that we thought Prof. Cook and Mr. Hutchinson were *dishonest*. Nothing could be further from our thought. We have known both too long to be very easily couvinced that they were not honest, either in their convictions or

otherwise. Neither have we thought or said that they were "criminals," and should be sorry indeed to think that we had caused any one to view either Prof. Cook or Mr. Hutchinson in any unjust light.

We may say further, that while we have felt it our duty to so very severely criticise the position of the *Review* on the sugar-honey subject, it is still a pleasure to say (aside from this one point) that the *Review* is almost above criticism, is always at the front, and full of the most practical and valuable information. We have always appreciated its "topical" discussions, and feel that it covers a unique and special field of usefulness.

We hope we shall never become so one-sided or prejudiced that we cannot see the merits of rival publications, or enjoy the personal friendships of their editors. While we may often be compelled to honestly differ from them, we still shall trust that there may never occur anything so serious as to sever the friendly relations that should exist among those who would advance mutual interests in any worthy cause.

Feeding Inferior Honey.—A subscriber in Colorado sends in this query for reply:

At what stage of the weather in spring is it safe to feed inferior or slightly scorched honey or syrup to bees?

Just as soon as they can fly freely. Perhaps there might be no danger if you were sure they could fly as often as once a week.

Bee-Culture in California.—The University of California, writes Mr. W. A. Pryal, of that State (and who attended the meeting of the California State Bee-Keepers' Association reported on page 304 of this number of the BEE JOURNAL), is to have an apiarian department. This institution should have such a department, but it was not Mr. Pryal's fault that such was not the case long er this. Mr. P. has advocated such a feature for fully a decade. Still, as it is better late than never, we hail the announcement with pleasure, and trust the new department will be established at as early a date as possible.

The agricultural department of the University will conduct the apiarian experimental station, and also conduct the studies. The success of this feature will depend upon how many students present themselves for admission to the course. If the number is too small, the matter will be dropped for the present.

Prof. E. W. Hilgard, who is now traveling in Europe on a leave of absence, is at the head of the Agricultural College; Mr. E. W. Wickson is professor of Dairying, Horticulture and Entomology; Mr. E. L. Greene is professor of Botany; and Mr. C. W. Woodward is professor of Entomology, and will have charge of the apiarian department.

Mold in Cellars.—We are asked the following question about mold accumulating in cellars:

Does mold accumulate the faster in a warm or cold cellar? W. E. S.

Without claiming to be authority in moldy matters, we feel pretty safe in saying that it is not so much a matter of heat or cold as a close, moist atmosphere, perhaps cold being more favorable than heat, for it will certainly become moldy, other things being favorable, in a cellar too cool for the welfare of bees.

"The New Manum Feeder," if we are at all good at reading pictures, is simply the Miller feeder as described and figured in *Gleanings* several years ago, and in its improved form now offered in different catalogues. The only difference that appears is that wire-cloth instead of wood, covers the part to which the bees have access. There is now such a multiplicity of implements, that before sending anything out as *new* it is well to look up the old.

Why Did the Bees Die?—Mr. M. D. Andes, of Bristol, Tenn., wants to know the cause of his bees dying off. He writes thus :

Why have my bees been dying all winter? They have plenty of honey, and while I have not lost an entire colony, as many as 25 to 100 bees are carried out dead every morning from each hive. I cannot account for it, unless it is impure honey. Last year was a bad honey season in this section, and my bees seemed to gather most of their supply late in October. M. D. ANDES.

At a distance, one can do little more than make a guess in such a case, but from the data given your guess would seem a pretty good one, that the difficulty comes from unwholesome stores. But it depends a little on circumstances whether there may be anything very bad in 25 to 100 bees being carried out. If that occurs every day for a short time, or even should there be a larger number for a very few days, there need be nothing alarming in the case, but if it should be a regular thing day after day for many days, then something is astray.

Wide Frames.—Mr. Elmer Bridenstine, of North Liberty, Iowa, asks the following question about the use of wide frames :

I have read the article about wide frames by Mr. G. M. Doolittle, on page 148. The question with me is, does he hang those wide frames, or let them rest on top of the brood-frames? I mean the wide frames that hold one tier deep. Please reply through the BEE JOURNAL. ELMER BRIDENSTINE.

Mr. Doolittle replies to the above question thus :

The top of the hive comes 5/16 of an inch above the tops of the brood-frames, and the wide frames rest on top of the hive, which gives 5/16 of an inch between the tops of the brood-frames and the bottoms of the wide frames, or just a bee-space. Some claim ¼ inch the proper bee-space, others that ⅜ is right, but I consider the former too little, and the latter too much.

G. M. DOOLITTLE.

Southern Queens.—Mr. Chas. Hammons, of De Witt, Iowa, asks the following questions :

1. Will a queen reared in the South be as hardy in the North as a Northern-bred queen?
2. Would you advise a Northern bee-keeper to buy queens from a Southern breeder? CHAS. HAMMONS.

1. Theoretically it seems there ought to be a little difference, but as a great many queens reared in the South are bought by Northern bee-keepers, and there are no reports to indicate that they are any more tender than Northern-bred queens, it may be understood that there is no difference as to hardiness.

2. In general, it is well to have queens make as short a journey as possible, and it would be foolish to send a long distance for a lot of queens if you can get just as good at no greater expense right in your own apiary. Still, it is often advisable to send South for queens, for queens can be reared there earlier in the season, so you can get them there at times when they cannot be had in the North at all, and perhaps it is for that reason that W. Z. Hutchinson makes a practice of renewing his queens each year by sending South for young queens.

Illinois Bee-Keepers are requested to read carefully the following letter which is written by Secretary Stone :

BRADFORDTON, Ills., Feb. 6, 1893.

To Bee-Keepers of Illinois :—

You are especially interested in the completeness and character of the information to be published in the Second Annual Report of the Illinois State Bee-Keepers' Association, now in course of preparation.

It is important that the bee-keepers residing in all portions of the State furnish information concerning this industry that will be of value and interest to the readers of the Report, which will contain the proceedings of the association at both its meetings, at Chicago and Springfield ; essays by prominent bee-keepers ; the report of the National Bee-Keepers' Union, etc.

You are therefore respectfully requested at your earliest convenience to send to the Secretary, answers to the printed questions, so far as you feel sure you can answer knowingly, and we will use them in part, or in full, as needed :

Please write your name and post-office

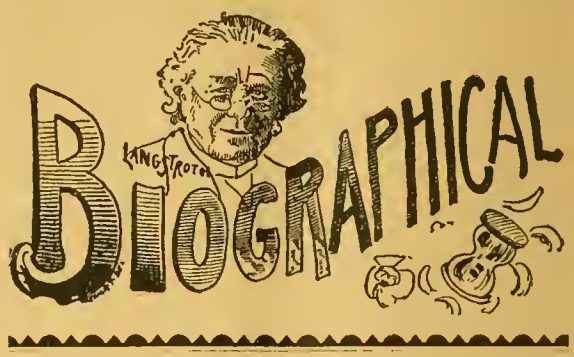
address plainly, and also the names and addresses of your bee-keeper friends.

Yours truly, JAS. A. STONE, *Sec.*

The printed questions referred to in the foregoing letter, are these :

1. In what county do you reside ?
2. How many years have you kept bees ?
3. How many colonies, on an average, have you kept each year ?
4. What kind of hive do you use ?
5. Do you prefer large or small brood-chambers ?
6. Do you work your bees for comb or extracted honey ?
7. If for both, please give the proportion of each ?
8. In working for comb honey do you use one or two pound sections ?
9. Do you use either wood or metal separators, and if so which do you prefer ?
10. What are your chief resources for honey ?
11. Do bees in your locality work to any extent on red clover ?
12. Do you know of any foul brood in your locality ?
13. Have you ever suffered any loss from the poisonous spraying of fruit trees ?
14. If so, what time was the spraying done ?
15. What do you think about bees damaging fruit ?
16. What is your opinion of bees in relation to flowers ?
17. What is your loss in wintering, and how done ?
18. Have you succeeded well in selling extracted honey when granulated ?
19. Do you know of any spot in Illinois where bees cannot make more than a living ?
20. What has been your average yield per colony for ten years ?
21. Do you consider Italian bees as proof against moths ?
22. Have you used bee-escapes ? What kind, and with what success ?
23. Miscellaneous remarks. (Under this head you are kindly requested to add whatever will be for the information of bee-keepers of Illinois, as to inventions or otherwise)

This is a matter that should interest every bee-keeper in this State. Now, let all who read the BEE JOURNAL in Illinois, answer the above questions by number, and *at once*, so that a very complete Report may be issued.



ERNEST R. ROOT.

It is not often that a periodical is so favored as is the BEE JOURNAL, with the opportunity to present to its readers, in a biographical sketch and by portrait, one who has come into well-earned prominence with such rapidity and permanency as Mr. Ernest R. Root. Though we have not met him face to face, we feel that we have in him a sympathetic brother and friend, if we may judge from the exceedingly pleasant and profitable correspondence that has passed between us.

Dr. Mller, who has known Mr. Root since his twelfth year, tells only as the Doctor can, how he has grown up into his present noble manhood and enviable position of usefulness as editor of "Lovely *Gleanings*." Let us all hope that Mr. Root may long be spared to bless the field of apiarian literature with his gràceful pen, and more graceful and earnest efforts in behalf of the whole bee-keeping world.

Permit us now to invite you to a careful reading of the following interesting life-story of our friend and brother editor :

Somewhere about twenty years ago, I visited Medina, Ohio, for the first time, going by stage, as there was then no railroad. Among the things I there saw was a boy perhaps in his twelfth year (he was born June 23, 1862). His name was Ernest R. Root, and in spite of the three decades that have passed over his head, he is still called "Ernest," both at home and abroad, much oftener than "Mr. Root." I don't know just why this is ; certainly not for want of respect. Perhaps because his pleasantly cordial manner, both in writing and

conversation, makes every one think of him as a familiar friend. I hope it may be always so. If he should ever get to be "Mr. Root" with me, I don't think I should like him as well as I do "Ernest."

The principal thing that I remember about him on that first visit, is that I do not recall that during the 24 hours I was there he was engaged in killing cats, or tying tin-cans to dogs' tails. So I don't suppose he was worse than the majority of boys. Indeed, I suppose he was too busy in other directions to have much time for such things. His father was A. I. Root. That's equivalent to

ERNEST R. ROOT.

saying he was a hobbyist—a born hobbyist. I am told that at a very early age he showed an extreme fondness for pictures—A. I.'s son, you see.

As a boy, one hobby was machinery, and to him a well-rigged water-wheel or windmill was the sum of earthly happiness. Later on, singly or combined, along with other hobbies, came mechanics, electricity, microscopy, bees, photography and bicycles.

In electricity to find himself the discoverer and inventor of many things of real value, but on informing himself more fully was somewhat chagrinned to find that he was neither an inventor nor discoverer, for all his new things were old. In spite of that, he still retains a fondness for everything connected with electricity.

The use of the microscope, notwithstanding its injury to a pair of eyes none the best fitted for it, was pursued with zeal; and among other microscopic studies, he took up the anatomy of the bee, going so far as to publish two or three articles thereon, when the appearance of the magnificent work of Cheshire made him again feel that he was only working over old ground.

To go back. In the year '81 he entered the preparatory department of Oberlin College, and left at the end of four years without graduating, being obliged to go home and take part of the burden that had become too heavy for his father's shoulders. That settled him in one direction, and shortly after he was settled in another direction, when he capitulated to a pair of black eyes, with properly accompanying charms of mind and body, possessed by Miss Elizabeth Humphrey. After some opportunity for observation, I am glad to believe that in her Ernest has a very worthy wife. She has a rival in his affections in the person of their two-year-old son, Leland Ives, a rivalry that she seems to bear not only meekly, but cheerfully.

Like his father, a rider of hobbies, I think Ernest is the better horseman of the two. Once fairly seated on a hobby, A. I. gives free rein, and if, in the chase, his hat is blown off, he only flings his arms the higher, and enjoys the fun. Ernest keeps a steady hand on the rein, and if the speed is too great, or the direction not to his mind, with a sharp pull he brings the hobby under control, or else deliberately dismounts.

Few have had the chance for editorial training that Ernest has had, and few have so well profited by it. Probably no one could tell when he became editor of *Gleanings in Bee-Culture*. I doubt if at any point of time there was any formal transfer of the position of editor from father to son. The fact is, he grew into the place. Very likely not many of the readers of *Gleanings* know how fully under the control of the son are its columns. Except the home and gardening departments, if I am not mistaken, unless you find the initials "A. I. R." attached, you may be sure that every thing has felt the editorial influence of Ernest. That the journal has lost nothing by the change of censorship, in the minds of its supporters, is evidenced by the fact that within five years from the

time Ernest took hold, the subscription list increased from five to ten thousand.

How much of the ability to control within proper limits his natural inclination to hobby-riding comes from a balance-wheel inherited from his mother, I cannot say. I am quite inclined to credit that ability largely to the father. With a matured judgment coming from a wide experience, so long as it was needed, he kept a close watch lest any false step was taken, and very likely Ernest was saved from coming to grief more than once by listening to the advice of his more experienced father.

Being both independent thinkers, it is hardly to be expected that the father and son should always hold the same views. Indeed, they are very far from doing so. But to me it has always been very interesting to notice the readiness to concede on the part of each, and to view with respect the opinions of the other. Fortunately for the best use of the position he holds, in any question having an important bearing on the general interests of bee-keepers, Ernest never hesitates to seek counsel from those on whose experience he can rely, and in any important departure as to the manufacture or use of appliances he asks the opinions of a number whom he considers experts, seconded by his immediate cabinet of advisers—his father, his brother-in-law, J. T. Calvert, and the foreman of wood-work, J. S. Warner.

It is also fortunate that Ernest has given up, or sent to the background, his bent for invention. As an inventor his field would be more limited. He operates in a wider field, and is always on the lookout for improvements, come they from what source they may, new or old. And no pains are spared to get at the truth of the matter, or to bring it to public notice, if found worthy. Immediately connected with an immense manufacturing establishment, *Gleanings* holds a position as leader in largely deciding what shall and shall not be popularly used among bee-keepers—a position that it could not long hold if its leadings were not always carefully made in the direction of the best interests of all.

I quote here from a sketch published about two years ago in the *Review*, written by the principal stenographer and proof-reader in the office of *Gleanings:*

"In manners, Ernest is very open and friendly. In fact, one knows him about as well after an hour's talk as he ever will. But this friendly urbanity does not prevent him from seeing the quack and impostor in an instant, so he is seldom, if ever, imposed upon. He is utterly destitute of selfishness; and his library, his camera, microscope, gun, or whatever he has, is entirely for the benefit of any who can be benefited thereby. His picture shows phrenologically an even balance of temper, which is well known to us here; for it is just as safe to ask a favor of him before dinner as after, which is not the case with most men.

"In speech, our junior editor is very rapid, with frequent interruptions, or going back to get a better word. In this respect he is just the opposite of his father, who seldom changes a word in dictating even two pages of "Our Homes," containing 3,000 words. A. I. has all his editorials fully matured and ready to put together, like the stones in Solomon's temple, while Ernest goes more on the cut-and-try plan.

"But the best thing I can say about Ernest is the unchanging attention which he pays to his father and mother. With him, nothing must stand in the way of their convenience and pleasure."

"In speech," the writer quoted above, evidently refers to dictation for publication, for in convention, although perhaps a little rapid, he is easily followed, and I do not recall any hesitation or going back for a better word. He is a pleasant and easy conversationalist, with a certain inquiring expression that always suggests to me an interrogation point—a never ceasing watch for what may be new or true.

I can hardly say as much for his writing as his speech. I have little faith in the ability to read character from hand-writing, and if I were called to pass a night for the first time in a room with Ernest, with no other knowledge of him than seeing some of his hand-writing, I surely would want to put my watch under my pillow. Perhaps if I had the privilege of a stenographer and a phonograph, *my* chirography might be no better than his.

The word in the German language that means "earnest," is "ernst," and changing the first letter to a capital it becomes the proper name Ernst, which in English is changed to Ernest; so there might seem something prophetic in his christening, for if any one characteristic stands out prominent in Ernest's make-up, it is his intense earnestness. I remember being quite amused at a bee-keepers' convention at seeing him carrying about with him a piece of a frame, in which he was at that time much interested, and wherever you saw Ernest, there you saw that piece of stick

to which he was solemnly holding on, apparently determined that he must make others see in it the merits he saw. And he did.

As mentioned in the quotation given, another characteristic is evenness. Whether at the factory, at church, at convention, at his house, he always has seemed to me alike, the same earnest Ernest. As might be expected, he is active in the church and Christian Endeavor Society, and has been elected for the third time as Superintendent of the Sunday-school.

Among the many bee-keepers with whom I am proud to claim acquaintance, none appear to me more like a brother. He seems more nearly my own age (most of the others seem older), and somehow I can get closer to him. Probably others feel much the same toward him.

C. C. MILLER.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Our School in Bee-Keeping.

FOURTH LESSON—SELLING THE HONEY.

Well, we cannot afford to have any middleman at first, and as we are in need of all the funds that we can get from the bees, I will tell how to get the benefit of the whole proceeds. When I say that we cannot afford to have a middleman, I mean to have it understood that if we have $1,000 outside of the bees, we are now working to get the most out of the bees, and no other capital is considered.

Now place your honey in a wagon and take it to your customers, and sell it to them at the highest retail price. Explain to each one that you make a sale to, that your honey is all produced by yourself, and that you guarantee it to be as represented; take the name of each customer, and tell them whenever they wish more honey like that, to drop you a postal card, and you will promptly attend to the order. Always sell nothing but the best, and keep the darkest to use yourself, as you know it is as good as any, but would not be called so on the market. I mean it is as sweet as the white honey, but does not look so well.

You need not take all your honey the first trip, as you need not make more than a few customers at the start, and if you sell nothing but the best, your customers will increase faster than your honey, and after you get to be a big bee-man, you can sell to the groceries and commission men. But by all means do not allow your honey to lie in the hands of the store-men and commission houses over a reasonable time, and if they do not sell it, take it and sell it yourself.

When I said it was a trade to produce a crop, and a different trade to sell it, I meant that we must find sale, and to do this, I have *always* found the most ready cash sales to be right at the doors of the consumers. Do not get discouraged if you should pass a dozen houses without making a sale, as all people do not use honey, and some may not be ready just then to buy; so the next dozen houses you go to may all take honey.

Now if you have, say 200 pounds of honey to sell, and the grocery men will only give you 12 cents per pound for it, you may be pretty sure to get 15 cents from the consumers; and say it takes you two days to sell it, then you have made $3.00 per day. Not bad wages.

I have had sold from one wagon in the city of Dallas, more than $100 worth of honey in a single day; and we sold from wagons one fall and winter in the cities of Fort Worth and Dallas, nearly 100,000 pounds of honey. Pretty big tale, but true, nevertheless. So you see we have some idea how to sell honey, as well as to produce it. In fact, dear friends, if I had not before known, I would not have started out to tell you anything about it. I have acquired all this knowledge through years of hard study, and now I have given it to you free, that you may do the same without waiting for years to learn.

Now, all the directions I have been giving has been for the beginners with only one or two colonies to start with. You must increase your honey-trade as your bees increase, provided your honey-trade does not out-go you, and you will have to push the apiary to keep up with it. I never yet had more nice honey than I could sell.

Now, as have learned to work our

bees both for comb and extracted honey, and know how to sell our product, I will next tell you a little about the honey resources, etc.

Growing of Horse-Mint.

Mrs. Atchley, will you please tell me in the AMERICAN BEE JOURNAL, whether horse-mint comes from the seed in the fall or spring? J. A. MARSH.
Seay, Oklahoma.

Friend Marsh, horse-mint usually comes up in the fall, and winters over like wheat; but it sometimes comes in the spring when there is insufficient rainfall in autumn to bring it up, but to be of much value for honey it must come up in the fall and winter over. If we have plenty of rain during winter, we expect a good yield from it, as it takes but little rain in the spring to make all vegetation thrive after we have had an abundance of rain during winter. We have now had plenty of rain, and horse-mint is growing finely, as it came up early last fall, and we now look for it to yield abundantly. J. A.

Preparing for the Honey Season.

The season of the year when the hum of the busy bee, and the opening of the flowers, giving labor to both the bee and its keeper, will soon be here. The intervening months between fall and spring, while Nature has on her winter garments, and our pets are quietly resting, perhaps dreaming of the good times we hope for, we should make preparations for the demands we may expect another season.

Not only should our hives, frames, crates, etc., be in readiness, but we ought to lay our plans—plans whereby we may secure, house, and market our crop of honey to the best advantage. To do this, we should enlighten ourselves in every way possible, as to the best manner of manipulating our bees to accomplish the best results. We should be thoroughly conversant with at least one of the best text-books on bee-culture, familiarize ourselves with one or more of the leading bee-periodicals in which is found the best thoughts of our most successful bee-keepers; also, when possible, attend some of the numerous bee-keepers' conventions held in nearly every State in our land.

If by negligence or otherwise you have not your hives and fixtures in readiness, neglect them no longer, with swarming, caging queens, clipping cells, extracting honey, renewing sections, or any of the general work to be found in a live apiary, we have no time, in our rush, to make or prepare anything we probably need that very minute. It is, therefore, positively necessary to have everything we shall need in the apiary, made up and stored convenient for use the very moment we may need it. The successful bee-keeper is the man who uses the winter months in making the necessary preparation for the coming season.
Lavaca, Ark. W. H. LAWS.

Curing Bee-Paralysis.

Mrs. Atchley, will you kindly tell us in the AMERICAN BEE JOURNAL, how to cure bee-paralysis? T. S. FORD.
Columbia, Miss.

Friend Ford, I do not know of a sure remedy. I have tried salt, and removing the queens, but all to no particular benefit. The most effectual remedy that I have tried was to put the whole colony out on new combs, or comb foundation, and give them sugar syrup or new honey, and in almost every case I have cured them.

It seems that so long as they occupy the same old combs and hive, they keep dwindling. I do not mean by this that I think there is any contagion about it, but under the laws of common rules and common-sense, we may expect the colony to be infected until it has a chance to do a general house-cleaning, or after settled warm weather and new honey comes in they usually get well, and so we may hasten to help them by giving them new, clean quarters at once. This I "caught onto" by swarms issuing from hives that were slightly affected with the disease, and when the swarm with the old queen was hived in a clean hive, the disease soon disappeared, while the parent colony kept on dying, even after the brood from the young queen had brought on bees to occupy the hive. So I concluded that to remove the queen was no remedy. I would like to hear from others on this subject. J. A.

Webster's Pocket Dictionary we offer as a premium for sending *only one new* subscriber with $1.00. It is a splendid Dictionary—and just right for a pocket.

Read our great offer on page 293.

Best Pursuit to Combine with Bee-Keeping.

Query 861.—1. Will the poultry business and bee-keeping go well together? 2. If not, what do you consider as the best pursuit to combine with the keeping of bees?—Ohio.

1. Yes.—DADANT & SON.

1. Most certainly.—A. J. COOK.

1. Yes. 2. Horticulture.—JAS. A. STONE.

1. Yes. 2. Small fruits, also.—EUGENE SECOR.

1. Fairly well. 2. Sheep, and some kinds of fruit.—P. H. ELWOOD.

1. Yes, poultry keeping and bee-keeping go well together.—A. B. MASON.

1. Yes. 2. Sheep breeding, winter dairying, green-house, etc.—J. H. LARRABEE.

1. Possibly it would. 2. Dairying, on a small scale, works well.—J. M. HAMBAUGH.

I see no reason why the poultry business might not go well with bee-keeping.—C. C. MILLER.

1. Yes, it would do about as well as anything. Grapes go well with bees.—C. H. DIBBERN.

1. Yes. 2. Or such fruits as ripen in autumn, as grapes, plums, peaches, etc.—R. L. TAYLOR.

1. Yes. 2. Almost anything you have a liking for, unless your locality prevents.—E. FRANCE.

I think so, but I have no practical experience, as I keep nothing but bees.—MRS. J. N. HEATER.

1. Yes, first rate. 2. I should consider both poultry and small fruits excellent.—MRS. L. HARRISON.

1. Yes. 2. Fruit growing is another excellent pursuit, in combination with bee-keeping.—WILL M. BARNUM.

They will go together as well as any two occupations, the busiest time of both of which comes in the summer. A better business to go with bee-keeping would be one which furnished occupation for the winter, but required little or no care during the summer.—JAMES A. GREEN.

1. I judge that they go very well together. 2. Gardening and fruit-raising and bee-keeping go well together.—M. MAHIN.

Yes, they will work nicely together if you have plenty of tact, snap and industry. So will raising fruits and vegetables.—J. P. H. BROWN.

If you take kindly to poultry it will succeed with bee-keeping, and if you own a few acres of land I would advise fruit raising in connection.—H. D. CUTTING.

The poultry business will combine as well as anything with bee-keeping, unless you can teach school winters and work at the bees summers.—G. M. DOOLITTLE.

1. Yes, if one has time to attend to both. 2. Bee-keeping alone will give the ordinary man all he can attend to; that is, if he expects to make it pay.—J. E. POND.

1. It may for those that like it, but not any for me. All will admit that it is a *fowl* business. 2. I think I should like banking, but as I am not prepared to run banking, I am trying fruit-growing.—S. I. FREEBORN.

First, poultry is very nice to combine with bee-keeping provided you do not run either too extensively, but my experience is that if you have your hands full of any one business, it is enough, as one cow properly fed and cared for is worth a half dozen that are only half cared for.—MRS. JENNIE ATCHLEY.

1. Yes. I have a flock of the Indian Games, and so far (two years) all goes well, although the young chicks play sad havoc with the drones, unless the hives are set up a foot or more from the ground. There are, however, many other pursuits that are successfully conjoined with bee-keeping.—G. L. TINKER.

There is mighty little in the poultry business except, perhaps, to the breeders of fine stock. A small dairy in a suitable locality fits an apiary nicely. We tried it several years ago, and it paid nicely, but we don't want *too* much of the "root of all evil" now-a-days, and we have sold off the Jerseys, keeping only three. When a man gets tired of too much of "this world's goods," the only remedy to *reduce*, is to quit work.—G. W. DEMAREE.

Report of the California State Bee-Keepers' Convention.

Written for the American Bee Journal

BY JOHN H. MARTIN.

The California State Bee-Keepers' Association met in the Chamber of Commerce, in Los Angeles, on Feb. 7th and 8th, 1893. There was a large attendance, and the assembling crowd were quite happy and hopeful for a good honey harvest, during the coming season.

The meeting was called to order at 10 a.m. by President McIntyre. The forenoon was taken up with routine business, and the real work of the association did not commence until the afternoon.

The Southern California Association met at 1 p.m., and by unanimous vote decided to disband and unite with the State Association.

Pres. McIntyre, in his annual address, reviewed the bee-keeping field, and gave suggestions for the advancement of the interests of the industry in the future.

CALIFORNIA STATE UNIVERSITY AND APICULTURE.

Professor C. W. Woodman, from the State University, then addressed the bee-keepers upon what the State University proposed to do for apiculture. Having the necessary apparatus they would experiment in any direction that bee-keepers most desired. The bee structurally would be studied. Honey would be analyzed. Experimentation in manipulation of hives and apparatus. Plants would be tested and tried, and new plants introduced. An apiary will be established near the University, and students so requiring will be given a course of study in apiculture. The Professor said that the University would meet the bee-keepers more than half way in their endeavors to aid them. If bee-keepers of California desire these benefits, it will be for their interest to keep in touch with this department of the University.

A vote of thanks was given to the Professor, and he was also elected an honorary member of the association.

MARKETING HONEY.

An essay, "Can We Develop New and Better Methods for the Sale of Our Honey," was read by J. H. Martin, after which the subject was fully discussed, and the point in relation to a better distribution in smaller packages was favorably considered.

It was also thought advisable to use new cans instead of second-hand gasoline cans.

It was suggested that second-hand cans would indicate a second-hand business.

The Secretary was instructed to correspond with manufacturers of cans, and to get their prices for a large quantity.

Mr. Brodbeck then read an essay on "The Chemical Composition of Honey."

Upon motion of Mr. Pryal, it was decided to ask the Legislature that an Act additional to our penal code be passed to prevent the spraying of fruit trees with poisons during bloom.

MAKING SHORT HONEY SEASONS PROFITABLE.

The subject of making short honey seasons profitable was taken up, and the most valuable point was the re-queening of colonies. Many pounds of honey were lost each season by having old queens in the hives, where a young and vigorous queen would soon fill the hive with bees.

"Economy in Bee-Keeping" was another paper by T. F. Arundell.

The question of "Hives" was then considered. A large hive was preferred for extracted honey, while a hive with a small brood-chamber was desired for comb honey.

The Heddon hive had been used by some with success for comb honey, and several expressed themselves as pleased with a shallow frame.

At the close of the evening session a social hour was enjoyed, and Mrs. J. F. McIntyre favored the audience with several bee-keepers' songs, which were highly appreciated.

SECOND DAY.

The bee-keepers gathered at the Chamber of Commerce at an early hour, and the first subject under discussion was for an appeal to the State Legislature for aid in the publication of the Proceedings of our Association, and the

collecting of statistics. According to this spirit a resolution was presented asking the Legislature for an appropriation of $300 for the purpose of publishing the reports of the Association, and gathering statistics.

Mr. W. A. Pryal, of Oakland, was commissioned to present this Bill to the proper committee at the State Capitol at an early date.

BEES AND FRUIT.

An essay, "Birds and Insects Injurious to Bees and Fruits," was read by H. E. Wilder, followed by an essay by R. Touchton. These essays were followed by general discussion, wherein the ground was taken that bees will not puncture fruit, but will clean it up thoroughly when it is previously punctured by birds or wasps.

Bee-keepers dislike to have their bees work upon grapes, as the grape juice is detrimental to the health of the bee. Mr. Pryal cited instances where the large grape-growers of Fresno kept bees with but little injury to their grapes or raisins.

Mr. Martin said that fig-growers in some instances made complaints against bees, charging them with attacking the large end of the fig. It is a fact that insects first deposit a small amount of yeast-like substance in the fig, which soon ferments, and after swelling and breaking the skin, the bee then finishes the fig. Get rid of the insect, and the bee will not molest the fig.

BEE-KEEPERS' UNION.

The Constitution of the Bee-Keepers' Union was then read. This organization defends all its members against suits brought against them by fruit-men. Several cases have been decided in favor of the bee-keepers, and the bee-keeping industry stands upon as legitimate a basis as any other industry.

There has never been a test case in California, but bee-keepers desire to have such a case.

The Constitution has been recently amended, so as to include provisions relative to the adulteration of honey.

Several members of the Association joined the Union by paying the annual fee of $1.00.

An essay was read upon "The Rise and Progress of California Bee-Keeping," and the work that could be done for the bee-keepers at the State University.

The subject of exhibits at the World's Fair was taken up, and several members agreed to contribute comb and extracted honey and beeswax. Many of the exhibits will be in fancy shape. A suggestion was made to exhibit wax in the shape of a grizzly bear, and also in the form of wax-flowers. The Association manifested a disposition to make a splendid exhibit of the honey crop of 1893.

Upon motion of Mr. Rowley, Mr. W. A. Pryal, of Oakland, was recommended to the World' Fair State Commission as a suitable person to take charge of the California exhibit at Chicago.

At the afternoon session officers for the ensuing year were elected as follows:

President—J. F. McIntyre.

Vice-Presiddnts—G. W. Brodbeck for Los Angeles county; J. W. King, Orange county; M. H. Mendleson, Ventura county; H. Trickey, Inyo county; C. C. Thomas, San Diego county; F. H. Hunt, San Bernardino county; W. A. Pryal, Alameda county; J. C. McCubbin, Fresno county.

Secretary—John H. Martin.

Treasurer—C. B. Woodbury.

Executive Committee—L. T. Rowley and A. Barnett.

AGAINST HONEY ADULTERATION.

The adulteration of honey came up several times for its share of denunciation, and every member, without exception, placed themselves upon strong ground against it.

Mr. Brodbeck introduced the following resoluion, which was passed unanimously:

Resolved, That the California State Bee-Keepers' Association in convention assembled express by a vote of thanks their appreciation of the interest displayed by the AMERICAN BEE JOURNAL and *Gleanings in Bee-Culture* in their determined opposition to the adulteration of honey in every shape and form that has thus far been presented.

CALIFORNIA HONEY-PLANTS.

An essay by L. T. Rowley upon "Honey-Plants of California," called forth some discussion. Mr. Brodbeck said the sages were the leading honey-plants, giving the most beautiful liquid honey; but his bees were at present at work upon eucalyptus and pepper trees, which gave a dark honey, and highly-flavored with the medicinal qualities of the trees.

Mr. Barnett said that the wild buckwheat gave, in his locality, an abundance of honey of an amber color, but he would like to know the name and order of the plant; it was not a buck-

wheat—only called so from its resemblance to the cultivated plant.

It was proposed to exhibit pressed specimens of California honey-plants. Bee-keepers of the northern portion of the State have prepared specimens in the hands of Mr. Watson, of El Dorado county, and a proper exhibit will be made of the flora of Southern California.

The last hours of the session were occupied by an interesting discussion of the best methods of marketing honey.

It was moved by Mr. 'Mellen that the Secretary collect statistics as the season advanced, and correspond with Eastern honey-dealers and get the best market prices.

Mr. Touchton believed that bee-keepers should keep their yields, whether great or small, private. Reports of large yields had a depressing effect upon the honey market.

Mr. Martin stated that bee-keepers were the bluest mortals known during an adverse season, while in a bountiful one they lived in a sort of a seventh heaven, and everybody was sure to know it.

The Secretary was instructed to send a report of the meeting to the members of the Association.

Mr. Pryal thought bee-keepers should form a Bee-Keepers' Protective Union.

Resolutions, thanking the officers for the effective work they had done, were passed unanimously, and the meeting adjourned to meet in Los Angeles at the call of the Executive Committee.

A few articles were on exhibition, notably a very ingeniously constructed self-reversing honey-extractor, invented by C. W. Metcalf, of Santa Paula. A carload of supplies from Medina, O., arrived during the session, and a few of the articles were unpacked for inspection.

There was a heavy rain during all of the second day, and instead of being depressing to the spirits, it seemed to revive every bee-man, for much rain now means a chance for a good yield of honey later on. JOHN H. MARTIN, *Sec.*

Your Neighbor Bee-Keeper

—have you asked *him* or *her* to subscribe for the BEE JOURNAL? Only $1.00 will pay for it for a whole year. And, besides, *you* can have Newman's book on "Bees and Honey" as a premium, for sending us two new subscribers. Don't neglect your neighbor! See page 293.

How to Unite Colonies of Bees in the Spring.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

A correspondent writes that his bees seem to be wintering poorly, and from this he fears he may have many weak colonies in the spring, so he wishes me to tell how I would unite them when spring opened, saying, "Give us an article on this subject in the AMERICAN BEE JOURNAL, as I am a reader of that paper."

Long ago I read that early spring was the time to unite weak colonies of bees, but years of experience have proven to me that each of the united colonies would often pull through alone, while, if united, all would perish. The reason for this seems to be, by early uniting an excitement is caused which wears out the nearly exhausted life of the old bees which then compose the little colonies, so that they die before the young bees are sufficiently matured to take up the labor of sustaining the colony, thus causing the loss of the whole thing. Being left as they were, without uniting, they seem to realize their condition, so no great amount of extra labor is performed until the young bees mature, after which such weak colonies build up rapidly.

After learning that early spring was not the time to unite weak colonies of bees, I adopted the following plan, which I have used for years to my perfect satisfaction:

In early spring, all the colonies which I think will not make good, strong ones by the middle of June, are shut to one side of the hive, upon only as many combs as they have brood in, by means of a movable division-board, which number of combs will be from one to five, according to the strength of the colony. They are thus kept shut up until such combs are *full* of brood. For food, I generally set a frame of honey beyond

the division-board, the carrying over of which stimulates brood-rearing wonderfully.

When the strongest of these weak colonies have their five frames full of brood, I take one of them away, and give it to one having four frames, always taking a frame where I can see plenty of bees just gnawing from the cells. An empty comb is put in the center to take the place of hatching brood taken out, which will soon be filled with eggs and brood. Don't on any account give this frame of brood to one of the weakest colonies at this time, as some are prone to do; for by so doing a part of the brood will be lost, for the bees in the weakest are not yet strong enough to care for more brood than they already have.

In a week, I take another frame of hatching brood from the same colony and give it to one that has three frames full, and also take a frame from the one I gave the frame to the previous week. Thus I keep on taking from the stronger and giving to the next strongest, until all have five frames of bees and brood, giving brood the latest to the weakest of the little colonies. Having all of them with five frames of brood, I proceed to unite them as follows:

I go to No. 1 and look it over until I find the frame the queen is on, which frame (bees, queen, and all) is set over to the vacant side of the hive. I then take the four remaining frames, bees and all, and set them in a comb-carrier, when I put the frame having the queen upon it, back where it was. I also place beside it an empty comb, and adjust the division-board to suit the two frames, when the hive is closed.

Next I take the comb-carrier and proceed to No. 2, which is then opened and the division-board taken out. I now take the first frame next to where the division-board stood, and place it next the opposite side of the hive, when I take a frame from the carrier, bees and all, as taken from No. 1, and place next to the moved frame in No. 2. Next I move another frame in No. 2 up to the one taken from the carrier, when another is taken from the carrier and placed beside it, and so on until the four frames from the carrier are alternated with those of No. 2. As my hives hold nine frames, it will be seen that I now have in No. 2 nine frames completely filled with brood, which will soon make a very populous colony.

In this way I keep to work until all are united, and the sequel nearly always shows a better result from these united colonies than from those which were considered strong in the spring.

As these colonies are generally ready to unite about 10 to 15 days before the harvest, they do not contract the swarming fever before the harvest arrives, and often go without swarming, which gives them the advantage over colonies which are bound to swarm at about the time the harvest commences.

As soon as the old bees which were brought from No. 1 fly out, they return to their old stand, which makes that a strong nucleus, and as soon as the queen gets the empty comb given her filled with eggs, the two are spread apart and an empty *frame* is given, which will be filled with nice, straight worker-comb in short order. When this is filled, two more empty frames are given, and so on, as long as the little colony will build worker-comb, and in this way this little colony contributes much toward the value of the apiary.

If, at any time I have more bees than I wish in the spring, I adopt the above plan with all colonies, keeping the whole apiary on five combs of brood as long as I can consistently, when I unite them as above, thus making one-half the number of extra strong colonies. As these are stronger, hence have to be doubled earlier in the season, most of them will swarm in a few weeks, when I have my original number, generally much stronger in bees than any of the very best would have been had they been left alone to manage their own affairs.

Borodino, N. Y.

Rheumatism Cured by Application of Bee-Stings.

Written for the American Bee Journal

E. A. BARNWELL.

I noticed in an issue of the BEE JOURNAL a request for information or experience in the cure of rheumatism. I think it was in 1885, I first bought a colony or two of bees. In June of the same year I was very severely afflicted with rheumatism. I tried all the cures that I could think of in the way of liniments, but they did me no good. So one morning I went to take off a case of honey; and the bees went for me. I think I got the honey, but the bees got me. Oh, but didn't they give it to me? I think there was a thousand on me at once. Did I run? You had better believe I did. I never thought of my rheumatism once; in fact, I never thought of it any

more for six months. I was cured, and forgot it. When the bee-stings got well I had no more rheumatism.

During the next winter I had another attack of rheumatism. I went to using liniments again, but it did me no good. I then began to think what it was that cured me the previous summer. Then I remembered that I had read about bee-stings curing rheumatism, and how I laughed at the idea of anybody trying that kind of a remedy, as I thought the remedy as bad as the disease; but I mustered up courage enough to try it, and the first day of March the bees were flying. I went down to the hives and pulled down my stocking, and when a bee crawled up on my leg or my stocking, I pulled up the stocking and caught it, and patted it on its back until it would sting me, then I would let it go and catch another and pat it on the back, until I had got about four or five good stings. When the stings got well, my rheumatism was well also, and I have never been troubled with it since.

Now I believe in bee-stings as a cure for rheumatism. Some of my neighbors call me a "crank" when I talk to them about it, but I am willing to be called a crank if I can find relief by it. I don't care what they call me in that line—it does not hurt half as badly as rheumatism. I have come to believe that a few bee-stings are good for me, and I am not half so afraid of bees as I once was.

Cerro Gordo, Ills.

Corrections—Apis Dorsata—Mailing Queens, Etc.

Written for the American Bee Journal

BY FRANK BENTON.

In the report of the Washington convention several omissions and mistakes occur which cause the views attributed to me to appear very different from those I intended to express, and I must therefore ask for space in which to correct them.

In the discussion on the self-hiver, page 143 of the BEE JOURNAL, where I said, "The cost is but little more than the interest on the money," there should be added these words: a trifle, which would be paid several times over if the self-hiver accomplished the result sought, and thus saved what it costs to hive swarms.

On page 145 is the statement, referring to Mrs. Benton's shipments of bees: "It was her skill in this direction which landed in fine condition the first queen-bee that ever made successfully by mail this long journey from Europe." This last should read: *from Europe to the Pacific coast.* As a matter of fact the first queens sent by mail across the Atlantic successfully were put up and posted by myself. But just here it may be of interest to add that up to the time of Mrs. Benton's success in mailing to the Pacific coast those I had sent by mail to States west of Kansas, had all arrived dead. Her queens were put up and mailed in Munich, Germany, June 8, 1885, while I was absent in the Orient.

There is credited, or I had better say, *debited* to me on page 148, the following: "*Apis dorsata* is not looked upon as valuable for a cross." What I wished understood was this: *Apis dorsata* might not prove valuable for a cross—perhaps even it would not cross with our bees.

This is not quite as bad as the ideas on page 249 of the *Canadian Bee Journal* for Nov. 15, 1892, where it is said that, "personally, Mr. Benton thought *Apis dorsata* would be no acquisition even if it could be acclimated;" and "that bee-keepers need not look for new discoveries of any consequence in regard to other and better races of bees than those now possessed." How in the world any one who attempts to report the views of another can possibly get them so twisted all out of actual resemblance to their original form, I cannot conceive. I not only never made these statements, nor do I hold such views. Moreover, at the Illinois State convention in Chicago I did not say anything about foreign races of bees except in reply to a few questions that were directed to me personally.

It is stated on page 214 of the AMERICAN BEE JOURNAL, that those there named were elected to honorary membership in the North American Bee-Keepers' Association upon a motion made by myself. This is true of all but the last-mentioned gentleman—Dr. H. W. Wiley, Chief of Chemical Division, United States Department of Agriculture, Washington, D. C. Dr. Wiley's name was proposed by Mr. A. N. Draper, of Upper Alton, Ills. I shouldn't wonder if I was the only member present who did *not* vote for his election. I conceive that only names of such as have rendered some eminent service to apicultural interests should be placed on our list of honorary members.

It might be asked why the names of two deceased individuals should now be

entered upon the list, and if these, why not the names of many others whose work entitles them to greater prominence. The activity of both Mr. Alfred Neighbour and Mr. Edward Cori was continued some time after the North American Bee-Keepers' Association had been organized, and I conceive that it might have been a mere oversight that they were not placed on the list while still alive. I suggested, therefore, in honor to their memory, and as a mark of respect for their families, that their names be now entered permanently on the list, marked as is usual in the case of deceased members, with a "star" or other reference.

The Agricultural Department letters from which Mr. L. B. Smith has quoted on page 141, were composed by me, and I shall therefore have to protest when made to say in referring to the juices taken from bees received from him: "An effort was made to obtain tuberculosis from these by inoculation." The letters in question were type-written, in duplicate, that is, duplicates were made by placing two sheets of paper in the type-writer and at one impression printing both. The duplicate copies are before me, and the above sentence is, very plainly: "An effort was made to obtain tube-cultures from these by inoculation." Again, to many, "bacillus alvei (foul brood) or bacillus gaytoni (dipilis) the cause of the nameless bee-disease," appears very different when printed as my type-written letter now before me has it: *Bacillus alvei* ("foul brood") or *Bacillus gaytoni* (depilis) the cause of "the nameless bee-disease."

I have by no means noted all the errors in the articles referred to, for that would make this too long and too dull. But enough have been mentioned to show that greater care should be taken by some not to misinterpret the views of others who have taken pains to express themselves clearly and decidedly.

Washington, D. C.

Are Drones from Unfecundated Queens Virile?

Written for the American Bee Journal

BY DR. C. C. MILLER.

On page 14, Dr. Tinker says, "All experience has shown that the drones of virgin queens do not possess virility, and are therefore worthless; although theory and scientific deduction proclaim to the contrary."

Dr. Tinker is not inclined to make careless statements, and for anything I know he may be right, but I think it just possible that he might modify his statement just a little, so as to read, that no experience had yet shown that drones of virgin queens possess virility.

The fact that in all these years no one has yet proven that such drones are fully virile, if fact it be, is strong presumptive evidence against their virility, but it is by no means conclusive proof. Suppose a number of such drones are on hand in the spring before other drones are present, and young queens flying remain unfertilized, the proof is still not conclusive, for we know that in many cases, on account of weather or otherwise, young queens remain unfertilized when normal drones are plenty, and this does not prove that these normal drones are not virile.

Mind you, I'm not saying which way is right. I don't know. But I do know that authorities, respected alike by Dr. Tinker and myself, give out the verdict that the drone progeny of virgin queens are fully virile, although I do not know that they furnish any but theoretical proof.

If, when drones are plenty of the kind as to which there can be no question, and if at such times queens are set free in like favorable circumstances among a large number of the kind of drones in dispute, with no successful result, it would be pretty hard to claim for them virility. Perhaps such a test can never be made, and it may be that the question will always be a mooted one.

Fortunately, it is a matter of not such great practical importance that any blood need be shed over it, and if Dr. Tinker and I meet again next fall, it is quite likely we may be on speaking terms, even if I do insist that he doesn't know for sure.

Marengo, Ills.

"The Winter Problem in Bee-Keeping" is the title of a splendid pamphlet by Mr. G. R. Pierce, of Iowa, a bee-keeper of 26 years' experience. It is 6x9 inches in size, has 76 pages, and is a clear exposition of the conditions essential to success in the winter and spring management of the apiary. Price, postpaid, 50 cents; or given as a premium for getting one new subscriber to the BEE JOURNAL for a year. Clubbed with the BEE JOURNAL one year for $1.30. Send to us for a copy.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Wintering Finely So Far.

The weather has been extremely cold here. The thermometer registered below zero for 30 days continuously during the month of January. Bees are wintering finely so far.

J. D. GOODRICH.

East Hardwick, Vt., Feb. 13, 1893.

Bees Have Used But Little Honey.

There is plenty of winter here yet, with occasional signs of spring. Bees that were left on the summer stands unprotected are in a very bad condition for early swarms. My bees wintered best with supers on. The bees consumed a comparatively small amount of honey until the present. My best colony stored about 37 pounds in the supers last year. D. O'CONNELL.

Cooperstown, Ills., Feb. 20, 1893.

Season of 1892—White Clover.

Last year I commenced the season with 70 colonies, and put 71 into winter quarters. I did not have a swarm myself, but one came to me. I got 3,500 pounds of comb honey, or somewhere near that amount, making almost 50 pounds per colony.

My bees had to-day their first good flight for three months. The colonies are all strong, and made the air just boil about noon to-day. It was 50° above zero at one o'clock. They are packed in wheat-chaff in chaff-hives of my own construction. I claim to have the secret for wintering bees in Missouri.

The clover never looked better; it is coming through all right.

I do admire the BEE JOURNAL's way of talking in regard to the adulteration of honey. J. W. BLODGETT.

Empire Prairie, Mo., Feb. 19, 1893.

Hiving Swarms on Drawn Combs, Etc.

Allow me a few words in behalf of Mr. Orville Jones' comments (page 184) on Mr. W. Z. Hutchinson's article about hiving swarms on drawn combs or on starters. I think that Mr. Jones was unfair, both to Mr. H. and to advanced apiarists, should he be taken for authority. Please give Mr. Hutchinson's article another close study, then if you know Mr. Hutchinson's plan, and how to work it, and have bees and nectar in the field, I can't see any reason why you should not get comb honey. But what can one do with the old-fashioned hives, with hanging frames, etc., tight bottoms and their like? S. M. CARLZEN.

Montclair, Colo., Feb. 15, 1893.

An Old-Fashioned Winter, Etc.

According to the request in a late issue, I will say that I have the AMERICAN BEE JOURNAL from Vol. I, No. 1, to the present time. I have 16 volumes nicely bound.

We have an old-fashioned winter in Western Pennsylvania, but the bees seem to be wintering fairly. Long live the "old reliable" AMERICAN BEE JOURNAL. W. J. DAVIS, 1ST.

Youngsville, Pa., Feb. 16, 1893.

Bee-Keeping in Minnesota.

Bees are wintering well so far, as far as I can learn in this locality. The winters are long and very cold here, the mercury often falling to 30° or 40°, and sometimes to 50° below zero, and sometimes have two months at one time that the mercury does not get above zero. Bees are generally wintered in cellars here, but there is one man that has a dark, unused chamber where he has wintered his bees very successfully for several years.

There are not many bee-keepers here, and no very large apiaries—the largest I know of is about 30 colonies; from 3 or 4 up to 12 or 15 colonies is the number usually kept. I have 3 colonies in my cellar that are very strong and healthy at the present time. One of these colonies was found in a bunch of grass in the field of one of my neighbors, where he said they had been for two days. As soon as he told me, I went and hived them, and in a very short time after I placed them on the stand they were at work as I never saw a young swarm work before in my nearly 50 years' experience with bees.

This is almost a treeless prairie—a few small groves of timber on the banks of some of the lakes is the only timber there is. One of my neighbors has a grove of about four acres of timber, mostly oak and basswood. About the last of December, while cutting down a tree, he found a colony of bees in it, and his boys at once began to hunt for more bee-trees; the result was they found 3 more, and at last accounts they were all alive and doing well. The question is, where did the bees come from, as there are no bees kept within 12 miles of this timber except mine, and I have had only two swarms run away?

Last season was a good one for honey, and bees stored a large amount of it in sections. There are none that work for extracted honey in this locality. We have a home market for all of our honey at 15 to 16 cents per pound.

S. B. Smith.

Keeville, Minn., Feb. 16, 1893.

Bees Did Well Last Year.

Bees did well out here the past season, considering the late, wet spring. About two-thirds of the bees in this locality dwindled away and died last spring, owing to the cold, late spring, which made late breeding and swarming, and as almost all the young colonies are light, and the winter severe, the loss from starvation will be heavy. One of my colonies had less than a quart of bees in June, and before the honey season was over they stored 125 pounds of extracted honey. I have a good market for my honey here, and sold my surplus for 15 cents per pound for comb, and 10 cents for extracted.

R. C. Hatch.

Central City, Iowa, Feb. 16, 1893.

Peculiarities of California Climate.

This State is very peculiar as to climate. We have a dozen or more climates; these we have from the fact that we have such a long stretch of country, and that some of our mountain ranges run up to such a high elevation. While at my friend Bliss' place 22 miles east of Los Angeles, last week, I saw tomato vines in his orchard that were not in the least injured by frost. He told me that he has had vines in bearing for four consecutive years, and they were never, in all that time, injured by frost. Our vines are killed every year. Yet I am told there is a place in this county, something like 20 miles from here, where tomatoes go through the winter untouched. Our mulberry trees won't leaf out for a month yet; those I saw on Mr. Bliss' place have already made six inches of new wood, and formed leaves four inches across.

Again, we are ahead of them in some things. Our list of wild flowers is far larger, and the varieties far prettier than anything they have in the southern part of the State. I was surprised to learn that they have no California laurels in Southern California. They are common up this way, and are one of our most showy evergreens. They bloom in January, and give the bees an abundant supply of pollen. Then we have dozens of other flowers that do not exist in the lower counties. Why this is so I do not know, unless it is that the many dry years they have there prevented the introduction and spread of the finer kinds of flowers in that otherwise beautiful clime. Perhaps it was one of those compensations of nature.

W. A. Pryal.

North Temescal, Calif., Feb. 15, 1893.

Good Crop of Honey Expected.

Bees have wintered well here, and are now gathering some pollen. The prospects are good for a good crop of honey the coming season in most parts of southwestern Texas. The crop of last year was a complete failure in this section of the country. Stock of all kinds did poorly. This is, or was, a hard country to look at; we need rain here badly now, but in almost all of the country south of the Colorado river there has been plenty of rain. We indeed live in a country of milk and honey when we have a good season. A. W. Lamkin.

Uvalde, Tex., Feb. 18, 1893.

Bees in Splendid Condition.

My bees last season did well in comparison with some of my neighbors, as I took in extracted and comb honey from 100 to 150 pounds to the colony, that is, from the best of them. I always winter most of my bees on the summer stands. This has been a hard winter for them, as the cold was so intense that they have been kept from flying for so long a time. On Feb. 12th and 13th they had a flight. We have lost 3 out of 47 colonies, but most of the others are in splendid condition.

John Haskins.

Douglas, Mo., Feb. 17, 1883.

Bee-Stings and Rheumatism, Etc.

So far our bees seem to be wintering well. About a week ago I had the rheumatism in my hand so badly that I could not use it. I went to the bee-cellar and let a little light fall upon the front of one of the hives, and soon a bee came buzzing out. Catching the bee, I shut the door and tried to make the bee sting me. It would not, however, and I was about to cast it away and get another, when it gave me a good pop. Before five minutes I noticed the pain going down. It is now entirely cured, and I think it was better than a doctor's remedy.

A year ago last summer father had 2 swarms issue at the same time. He told me I could have one of them if I would hive it, which I did. They did nothing that year, further than to store enough for winter. They lived through the winter all right, and last summer I got about 30 pounds of honey. I had no increase, and they went into this winter with plenty of stores.

Father says the BEE JOURNAL is "a glad surprise," and that he would not do without it for $10 a year.

W. E. STONER.

Atlantic, Iowa, Feb. 14, 1893.

Hard Winter on Bees.

I have just looked over my bees, and out of 126 colonies I found 13 dead ones. All are outside in chaff hives, and all have plenty of honey. I expect a large honey crop the coming season. It is a hard winter on bees, and I will be satisfied if I have 100 colonies to extract from. NATHAN MERCER.

Neosho, Wis., Feb. 20, 1893.

Swarms Hived on Starters, Etc.

In the BEE JOURNAL of Dec. 22, 1892, W. Z. Hutchinson gives his plan of using empty combs. I was very much interested in his ideas, for they agree with my experience to a T. My early lessons in bee-keeping were from bee-books saying that it was as good as money in banks to save all combs, even to pieces, and fit them in frames held by clamps until the bees mended them. I was very much taken with the idea, and set about to accomplish the feat. Two years ago I became overstocked in bees, so I doubled up until I had the desired number, and by this means I had a nice lot of combs to hold over until the next season. I thought now I will have my sails trimmed, ready for the breeze.

I hived nearly all of my new swarms on a full set of nice combs. The bees seemed delighted with the arrangement; they stayed right by them, didn't want any upstairs in theirs! My "sailing" was not as pleasant as I anticipated, the breeze didn't breeze worth a cent.

Now, I feel thankful for what I learned in bee-books, for if it had not been for them I would not know as much about empty combs as I do now. I have come to the conclusion that starters in the brood-nest and sections is the best. Bees do not work with the same vim when given full combs, or full sheets of foundation, as they do with starters. In this management we do not get as straight combs, but we know how to make wax out of the crooked and drone combs, and can replace them with straight ones, and then you will find your bank account in a big pile of wax.

THOS. O. HINES.

Anamosa, Iowa.

Hybrids vs. Italians for Honey.

On page 148, Mr. Boggs desires to know which are the best bees to gather honey, the dark or the golden Italians. He wants to discard Italian-hybrids for bees that will breed up early in the spring, and store the most honey. If Mr. B. is not particular about any other good qualities save the two mentioned, I would advise him to keep the hybrids; they are very hardy, and are not excelled by any in gathering the sweets. I might speak more favorably of their fine work in the sections, but should I say more, some one would be sure to contradict.

In my opinion, the bright yellow Italians are more gentle than their dark sisters, and we know they are quite pleasing to the eye; but on what grounds could we expect them to store more honey? If I am rightly informed, they are no cross, but reared from pure Italian mothers or a Doolittle queen. I am greatly in love with them, but I find it requires much care in breeding to keep the five-banded beauties.

A. B. BAIRD.

Belle Vernon, Pa., Feb. 15, 1893.

Wild Peach of Texas, Etc.

Bees have wintered in fine condition here. They began carrying in pollen on Jan. 28th, at a lively rate. Wild peach will be in bloom in a few days.

As several letters have been written to me asking about wild peach, I will try

to describe it. It is an evergreen tree, growing in rich, swampy bottom-lands. The tree is a beautiful one, growing from 25 to 40 feet high. It generally begins to bloom about the middle of February, and stays in bloom about one month. The fragrance is delightful. Berries are then formed, which hang on the trees all the spring and summer, and are of a pale green color. In the fall they change to a jet-black color. Robins eat the fruit all winter, and get so fat they can hardly fly.

I have just returned from a trip to the coast country, and had an excellent time hunting game and fishing. Fish are very plentiful there. Many men are making money there shipping game and fish. I learned that bees do very well there in some seasons, but not so well as they do in the center and northern part of Texas. The country is very thinly settled; stock-raising is the principal occupation, and is very profitable—in fact, many men have made fortunes by it.

I wish Dr. Miller would not say anything about the cold weather, as we hardly know what cold weather is here.

W. S. DOUGLASS.

Lexington, Tex., Feb. 10, 1893.

Convention Notices.

NEW YORK.—The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.

H. C. FARNUM, Pres., Transit Bridge, N. Y.

COLORADO.—The adjourned meeting of the Colorado State Bee-Keepers' Association will be held in the Charles Block, corner 15th and Curtis Streets, Denver, Colo., on April 18, 1893. Business important to all honey-producers will come before the meeting.

Littleton, Colo. H. KNIGHT, Sec.

KANSAS.—The Kansas State Bee-Keepers' Association will hold their annual convention at Ottawa, Kansas, on April 6 and 7, 1893. All bee-keepers are cordially invited to attend this convention, and make it one of the most interesting ever known. There will be a good programme. Bring something to exhibit.

L. WAYMAN, Sec.

Chanute, Kans.

TEXAS.—The Texas State Bee-Keepers' Association will hold its 15th annual convention in Greenville, one mile north of the Court House, at the apiary of Mrs. Jennie Atchley, on Wednesday and Thursday, April the 5th and 6th, 1893. One of the biggest bee-meetings ever held in the South is anticipated. Everybody is invited. No hotel bills to pay. Come one, come all, and let us have a lovely meeting, and an enjoyable time. All bee-keepers invited to bring along something to exhibit.

A. H. JONES, Sec.

Golden, Texas.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

56 FIFTH AVENUE, CHICAGO, ILLS.

Special Notices.

The Date on the wrapper-label of this paper indicates the *end* of the month to which you have paid for the JOURNAL. If that is past, please send us one dollar to pay for another year. This shows that Mr. Porter has paid his subscription up to the *end* of December, 1893:

Wallace Porter Dec93
Suffield, Portage co, Ohio

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

April 5, 6.—Texas State, at Greenville, Tex.
A. H. Jones, Sec., Golden, Tex.

April 6, 7.—Kansas State, at Ottawa, Kans.
L. Wayman, Sec., Chanute, Kans.

April 18.—Colorado State, at Denver, Colo.
H. Knight Sec., Littleton, Colo.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

"Bees and Honey"—page 293.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, March 4th, 1893 :

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted,fair supply, with good demand at 8½ ; dark, 6@7c. Beeswax—23@25c. J. A. L.

CINCINNATI, OHIO.—Demand from manufacturers is slow, but the demand is good for extracted for family use. It brings 6@8c.—No good comb is on our market. It would bring 14@16c.
Beeswax—Demand good.at 23@25c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

ALBANY, N. Y.—Our stock of honey is light and also receipts. Demand keeps up better than usual this season. We are selling white comb honey at 14@16c.; mixed, 12@13c.; dark, 10@11c. Extracted, white, 9@9½c.; mixed, 7½@8c.; dark, 7@7½c. Beeswax,28@30c. H. R. W.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

"Bees and Honey"—see page 293.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.
J. A. LAMON, 44 & 46 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & Co., 14 & 16 Hennepin Avenue

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

Advertisements.

50 Colonies of Bees For Sale

IN 10-frame and 8-frame Hives, Langstroth frame. 10-frame, $4.00 each; 8-frame, $3.50 each. If 5 are taken at one time, 5 per cent. discount. Also. **40 Chaff Hives,** 1½ story, and **20 Root Dovetailed Hives,** nailed up and furnished with section-holders and brood-frames. Dovetailed Hives, 90 cts. each; Chaff Hives, $1.25 each. The Hives are **new** and the Bees are in **good condition.**

J. M. KINZIE,
10A2t ROCHESTER, Oakland Co., MICH.

Mention the American Bee Journal.

ITALIAN QUEENS.

BRED for Business, Gentleness and Beauty. Untested, 80c. each; three, $2.25; six, $4.00; twelve, $7.50. Tested, $1.25. Selected tested, yellow to the tips, breeder, $1.50. Will commence shipping April 15th. Safe arrival guaranteed.

G. E. DAWSON,
CARLISLE, Lonoke Co., ARK.

Mention the American Bee Journal.

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., MARCH 16, 1893. NO. 11.

"**God Bless the Man** who sows the wheat,
Who finds us milk and fruit and meat;
May his purse be heavy, his heart be light;
His cattle and corn and all go right;
God bless the seeds his hands let fall,
For the farmer he must feed us all."

The Washington Convention Report is now in pamphlet form, and we shall be pleased to mail a copy to any one desiring it, for 25 cents. It contains 32 pages. As only a very limited number were printed, you should order promptly if you want a copy.

Mr. Frank McNay, of Mauston, Wis., gives in *Gleanings* a comparative statement of the honey produced during 16 years (from 1876 to 1891, inclusive) in the famous "Sespe" apiary in California, and his own apiaries in Wisconsin. It is an interesting table, showing that 73 pounds per colony was the total average of the California apiary, and 93 pounds per colony of Mr. McNay's apiaries. Mr. M.'s best crop in any one year was 23 tons; best gain from one colony, 31 pounds in one day; and 335 pounds from a single colony in one season.

Questions and Answers.—As there are always new members coming into the BEE JOURNAL family, it becomes necessary to repeat at intervals what should be understood about asking questions. The subscriber who thinks he is entitled to nothing more than to find what happens to come in our columns ready printed, whether it fits his particular case or not, is making a great mistake. It is no grievance for us to be obliged to answer questions. That's what we're here for; to tell, just so far as we know how, what you want to know. Not but what there are plenty of questions to be asked in bee-keeping that we cannot answer—how we wish we could answer all—but there are also plenty we can answer.

Too often it is the case that some beginner feels that he does not want to be troublesome, and so refrains from asking questions. Let such a one please remember that there are others just like himself, and that we are glad to have questions for the general good. Any one who has mastered to a considerable extent the contents of one of the standard text-books on bee-culture, and then finds a point on which he has a question, will be doing us a favor to send it.

On page 333 of this number, we begin a new department, called "General Questions," in which we will endeavor to accommodate those questions that can be just as satisfactorily answered by *one* person, and also such as demand an *immediate* reply in order for such reply

to be of any value. Principally it will be an editorial department, and, we trust, will prove to be interesting and profitable to all.

But bear in mind that it *takes time* to get questions "through the mill," and don't expect an answer by return mail. Sometimes there is a mass of matter on hand, and your questions may have to wait some little time; and even if it does not have to wait, but is pushed through with the greatest rapidity, if it happens to reach us on the day when the "forms" are closed for the next BEE JOURNAL, it must be some days before it can be reached, and then Uncle Sam must have a little time for his part of the contract.

So remember that all reasonable questions are not only permitted, but welcomed. Make your questions as clear as you can, and be sure to ask them so there will be plenty of time for answer. Just as soon as your question can be reached, you will find the printed answer in our columns. Of course, questions of such character as to go into the department of "Queries and Replies" may not be published for a good many weeks, for such questions are sent out a number at a time to the experts for answer, taking some time to get such answers, and then they are published in their order afterward.

The Review said recently that "G. T. Somers is the name of a pleasant, nice looking young man who has been editor of the *Canadian Bee Journal* for the last year. I met him last week at the Ontario Bee-Keepers' Convention. Practically, Mr. D. A. Jones has nothing more to do with the *Canadian Bee Journal.*"

The Exports of Honey from the United States during 1892 were valued at only $42,462, against $70,771 in 1891. No record is made of any importation in the statement of the Treasury Department.

Illinois Bee-Keepers must act *at once*, if they wish to secure the annual appropriation of $500 from the State Legislature. Here is a letter dated March 9th, which fully explains itself:

BRADFORDTON, Ills.

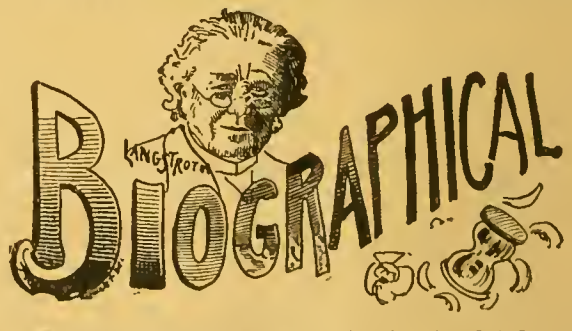
FRIEND YORK:—A Bill has been presented in the House of Representatives to provide for the usual appropriation of $500, for the purpose of publishing the report of the Illinois State Bee-Keepers' Association. A similar Bill has been presented in the Senate, and was, by a small majority, not favorably received.

Unless the bee-keepers of the State act immediately, it will share the same fate in the House. It is therefore of the utmost importance that bee-keepers write to their respective members of the House and Senate, urging the early and favorable consideration of the said Bill.

All are requested to write each of their three Representatives, and Senator as well, from their District, and as strongly as possible urge upon each the importance of the measure to bee-keepers interested in developing the industry throughout the State.

Let all please favor the undersigned with the letters they receive in reply, in order that the Legislative Committee may be fully advised of the interest or opposition to the same in the House and Senate, and advocate the early passage of the Bill. Yours truly,

JAS. A. STONE, *Sec.*



G. W. DEMAREE, ESQ.

So far as as we remember, we have never before seen either a biographical sketch or a portrait of Mr. G. W. Demaree, of Christiansburg, Ky., in any publication; so we are afforded the pleasure of presenting for the first time, to the readers of the BEE JOURNAL, the face and short life-story of Mr. D., who is so well known as one of the oldest

contributors to our columns, both by his answers to queries every week, and by an occasional contribution—all of which show practical experience and an educated mind.

Mr. Demaree is of Huguenot stock, and was born in Henry county, Ky., on Jan. 27, 1832. His father owned a large farm, and, in those days, was considered "well to do." The farming operations were carried on quite extensively, and young Demaree was brought up to do *all work* on the farm, and, with his brothers, was exceedingly fond of

G. W. DEMAREE.

breaking and training the large number of fine horses they reared.

In the old-fashioned yard was to be seen a long row of bee-hives perched on a platform of puncheons, and protected from the sun and rain by a narrow shed erected over them. Mr. D. was his father's main reliance for help with the bees. He was a natural mechanic, and helped make the necessary bee-hives and "honey-caps," and later on made them without any help. Many of those box-hives were nicely "dressed" and painted.

At an early age he developed a remarkable interest in insect life, especially in honey-bees, and was never happier than when prying into the ways of bees and other insects. Amid all these busy scenes his education was not neglected, and being an enthusiastic aspirant for knowledge, as well as an untiring student, he outstripped many of his age who had spent much more time in the school-room.

When he reached manhood he left home and went West, where he continued his studies, attending school and working at the mechanic's business. The year 1855 found him in the (then) wilds of Upper Missouri and Kansas. In the past he has published in newspaper articles a description of the wild bees he saw while on that trip to the new West.

In 1856 he was again found on the old farm, in his native State. The "boys" indulged their slang by declaring that "calico" was the attraction! And perhaps this was nearer the truth of the situation than they themselves believed, for in 1857 he was married to the woman of his choice, and began life in earnest. Once on a farm of his own, he began his career as a bee-keeper, and "began to invent new bee-gums with much enthusiam."

Then followed the unhappy years of the Civil War. The terrible scenes he witnessed—the bending over the prostrate form of a cherished brother, with a bullet hole through his body; men with shattered limbs, and dead men with their boots on—will haunt his memory until "He that sitteth upon the throne" shall "make all things new."

The war over, Mr. Demaree left the farm, and entered the practice of the law, and from thence his life became an exceedingly busy one. He has held public trust in his county (Shelby) for 25 years, three years of which he was chairman of the Board of Public Charity of the county—a most difficult and delicate position, owing to the increase of poverty by reason of the sudden emancipation of the colored people.

During these years Mr. D. has found time to manage an apiary of not less than 50 colonies, reared queens, and produced profitable crops of honey. In May and June he can always be found in his apiary, and is ready to "talk bees" with all visitors. In the past two years he has retired from the greater part of the business that has engaged his attention, and now enjoys more leisure, and is happier than ever before.

Mr. D. has been a member of the Presbyterian church for 37 years, and is an Elder in his church. He is a firm believer in the pre-millennial advent of Christ, having given the subject much study, and now believes that the "signs of the times" warrant the belief that we are nearing the world's great crisis, which will culminate in the promised "restitution of all things."

THE LAND OF DZIERZON

CONDUCTED BY

H. REEPEN,

JUGENHEIM, HESSEN, GERMANY.

Apicultural Notes.

SPERMATIC ANIMALCULES IN BEE-EGGS.—Mr. Faylor believes, and it seems that Prof. Cook does too, that sperm-cells cannot be discovered in bee-eggs with any kind of microscope. Prof. von Siebold discovered sperm-cells in bee-eggs about 40 years ago, and the microscopes at that time were not the very best ones. If Siebold had not discovered them, there would not have been a scientific sanction of the ideas of Dzierzon up to now. Is that true? No! it is a fact that the doctrine of Dzierzon is acknowledged by everybody now-a-days.

QUEEN LAYING WORKER-EGGS IN DRONE-CELLS.—Rev. Faylor says in the AMERICAN BEE JOURNAL, "If you want drone-bees, give a good colony nothing but drone-comb. All eggs layed in drone-cells produce only drone-bees." Pardon, but that's not correct. The queen is more clever than many think for; she does not like too many drone-bees, and if you give her nothing but drone-comb, she will soon lay fertilized eggs, notwithstanding the drone-cells; and it is strange that the worker-bees, which come from them, are not a bit larger than those fed up in worker-bee cells.

This experiment has already been made in Germany, by Grunhagen, Oerpke, and afterwards by the well-known Vogel.

QUEEN AND SPERMATIC CELLS.—The queen is able to produce spermatic cells herself. Mr. Metzger, at Budapesth, has recently published a surprising research about the seminal vessel (*receptaculum seminis*) of the queen. Up to now the microscopical researches of Prof. Leuckart and Prof. von Siebold, who, together with Berlepsch, first proved Dzierzon's marvellous doctrine of the Parthenogenesis to be right, have been standard; but now Metzger has corrected part of these researches, and added a highly interesting fact. He says:

"The statement of Prof. Leuckart, that the seminal vesicle of the queen is large enough to accept millions of spermatic animalcules at once, is not correct—it is much too small for that, and the spermatic animalcules cannot live for three to five years in the seminal vesicle of the queen, as is believed to-day. The seminal vesicle is a 'gland,' and has therefore secretions which consist of an opalescing liquid containing cells without nucleus. After the copulation, all these cells have a nucleus, and one can see the spermatic animalcules in all kinds of sizes, part of them *just leaving the cells*. This is a proof that the spermatic animalcules can be increased in number *by the queen herself*. If a queen is killed during spring-time, when the seminal vesicle is *filled* with spermatic animalcules, one can even see that the spermatic animalcules are trying to leave the cells even before the cells have got rid of the mucous membrane of the gland. During winter-time there are only very few sperm animalcules in the seminal vesicle, and still in spring the queen is able to lay up to 3,000 eggs a day, and each egg wants at least one sperm animalcule for fertilization."

This is quite a new view, and a good many of the men of letters will be surprised at this doctrine. Dzierzon thinks favorably of it. He says that he sometimes has noticed that an Italian queen mated to a German drone, in the third year, did not produce any more hybrids, but *pure* Italians. There was no statement as to this curious fact up to now, but the discovery of Metzger will attest it.

That's something for Prof. Cook!

H. REEPEN.

The Sting Trowel Theory is thus referred to by Prof. Wm. F. Clarke, of the Ontario Bee-Keepers' College, at Guelph, Ont., Canada:

Permit me to say that "Whoever the I may be" who figures in the English journals mentioned on page 137 of your issue of Feb. 2nd, is not *me*, nor have I any knowledge who it is. The quotation is taken bodily from my "Bird's-Eye View;" nor has the writer gone a step farther than I, in assigning to the formic acid (not the sting) the duty of flavoring the honey. I believe that the bees, as Cheshire happily phrases it, add "droplets" of formic acid to the honey as they store it, and smear some on the cappings in the finishing touches which they give them. WM. F. CLARKE.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Our School in Bee-Keeping.

FIFTH LESSON—PRODUCING HONEY ON A LARGE SCALE.

You must, to be a successful bee-keeper, study your honey locality, and know just about what time each plant blooms, and be *very* particular to note down those that give you your crops. Work your bees to have them ready to catch all you can, as a few days too late has lost a good part of many a bountiful harvest.

Now we will go through the operation of producing honey on a large scale—say an apiary of 100 colonies or more. This is an important lesson, and pay strict attention, as I would not have you to fail now for a good, big sum.

Producing honey on a large scale is the same as on a small scale, except that it seems our skill must be greater to make a large apiary pay as well as a small one, in proportion. But after we get the "hang of it," it is easier to get our bees in good condition to gather in the harvest, as we have more bees, and can take from one and help another, and get the whole apiary in about the same shape to catch the harvest. I know that some apiarists don't approve of doing this, but where it can be done long before the honey-flow, it is the best thing to do, as we can have our colonies all equalized in time for them to start off on the sections, or in the extracting supers, at the same time.

It is no use to be wasting brood on a colony that has a poor queen. You had better pinch her head off at once, and let them rear a queen, or give them one from some other source. One of the main reasons why we fail in a large apiary is, we neglect our duty, and do not have our extra hives, supers, and sections all ready, just because it is a bigger job. And now I will tell you that it is just as important to prepare for 100 colonies as it is for one, or more so, as the loss is not so great with a few. But, to sum it all up, we can make a large apiary pay as well as a small one if we will be up and doing, and attend to everything as we should. I mean, a large apiary will pay as well as a small one, unless we overstock a pasture, and we should look sharp and not do this, and when we see that we are overstocking, divide our bees out into out-apiaries. But when a good year comes, there is not much danger in overstocking in this locality; however, when we see that we are going to have a poor year, it is best to give the bees better range by moving them to out yards.

By all means do not think of using but one size of frame in your yards, as it is a serious mistake, as you cannot manipulate your apiary to advantage.

Now, when you get to 100 colonies, you may, if you wish, make increase enough every year to make an out-yard until you get all the bees your brains can manage, and in this you will have to be governed as you go along; and when you get as many as you are making pay, you had better stop; do not be mistaken about this, as you are in a shape now to lose something, should you fail. But please bear in mind that you *must* not try to increase your bees in poor seasons, rather decrease, if anything.

The Summerland of Florida.

Suffering greatly with sciatic rheumatism in Grand Meadow, Minn., and finding no relief among the Minnesota doctors, I was, in November last, banished, so to speak, for the winter, at least, to Florida—the perpetual summerland. Here in the warm sunshine and balmy air relief has so far come as to enable me to walk without crutches or cane.

Before leaving my home, the bees were carefully stored in a dark department of my cellar, and I bade them an affectionate farewell for the long, cold winter. How I have wished to have them here with me, to share my banishment, and that they might revel in the blossoms of February. For a week past, the peach, plum, cherry, blackberry, yellow jessamine, and other blossoms, have been in full beauty, and the bees are swarming among the branches, eager to gather the sweet nectar. Soon this will be followed by the orange, lemon, grape-fruit, dogwood and magnolia, with many others.

In Florida, bee-keeping is not done as we do in the North. I have seen none but the natives, or black bees, and if they survive the millers all right, and if they gather any surplus, all right; and if they do neither, it seems to be all right any way, in this careless going State. Very little care is ever given them.

Now, being lonesome, and weary with aching, longing for some bees, I have fitted up a hive, frames and all, filled part with guide-combs, and have discovered a bee-tree. Now I am happy, and next week I will try the transferring from a rotten old tree, away in the swamp and water, to a new hive, clean and bright. I long to have them hum under my window, even though they are black. I have often transferred from a barrel, box, and nail-keg, but a rotten log is a "new deal." At some future time I will report progress.

Here in Florida, it is claimed that the honey from the yellow jessamine is poisonous, or at least makes people deathly sick who eat it. I should like to know as to the truth of this claim.

C. F. GREENING.

Orange Park, Fla., Feb. 23, 1893.

An Aged Bee-Keeper's Plan to Introduce Queens.

MRS. JENNIE ATCHLEY:—I will say in the first place that I am in my 73rd year, so I am not able to get around much, but so far as I know, bees are kept upon the let-alone principle here. We are having very heavy weather in Spanish Fork at present, and we thank God for it, as it means plenty of water this year. We have but little rain in Utah, so we must irrigate our crops.

No, my plans of introducing are not too good to give away, and if I give them to Jennie Atchley I know what she will do with them. What? Why, she will give the plans to everybody else, of course.

Here is one way: I put the queen into a spiral-wire cage, with a cork of comb to keep her in the cage. I then go to the colony I want to introduce her to, kill the old queen, put the cage with the new queen between two combs, have by my side a cup of honey, put some of it on each side of the cage, and all I wish on top of the frames. I do this about four or five o'clock in the afternoon. That is one way.

Here is another: Take a nucleus with its queen, and introduce to any colony that has no queen, or you can go to the colony you wish to introduce to, and remove the old queen. Now, have with you a sheet of paper—any kind of thin paper will do, or a newspaper is good. Lay it over the top of the hive, and place the nucleus with the queen on top. The bees will do the rest.

I suppose these plans are as old as Adam, but I have never lost a queen with either way, but I have with all other plans that I have tried.

CHAS. W. LEAH.

Spanish Fork, Utah.

Bees in a Hive with Crooked Combs.

MRS. ATCHLEY:—I write to ask you if you would advise me to set an empty hive over a colony that has combs so crooked that I cannot handle them? I see that is the way Root's "A B C of Bee-Culture" says to do, and I ask what you think about it? F. A. GARDINER.

Friend Gardiner, I would not think of setting an empty hive over one with their combs built crooked, as that is a very slow way, and does not always prove satisfactory. Just take off one side of the hive and smoke the bees out of your way, and cut out the combs, brushing all the bees that adhere to the combs into a new hive, and tack in (see "Transferring," page 205 of the BEE JOURNAL for Feb. 16th)—only yours are in a frame hive already, and it is box-hives the directions are given for; but fasten in your combs the same. I will add that it is best to leave out all drone-comb, or place it in the outside frames; this I forgot in my transferring directions. J. A.

Florida, the Land of Flowers.

It does not seem possible that at the North there can be so much snow and ice, when here fruit-trees are blooming, and the air is so soft and warm. The bloom of peach trees is large, and of a beautiful dark pink, and bees fairly swarm upon them. The ti-ti is blooming, and very fragrant, and bees are gathering beautiful white honey from it. Wild sage is in blossom, and residents say that it is the same variety that is to be found in California. Yellow jessamine is quite a favorite, and is trained up as an ornamental vine. All of the bees that I have seen in this immediate vicinity are small and black, and the hives are *non-de-script* affairs.

MRS. L. HARRISON.

St. Andrews' Bay, Fla., Feb. 27, 1893.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Carniolan Bees.

Are the Carniolan bees suitable for a climate that is not very cold, but very damp in winter? D. T. PHILLIPS.
Cornelius, Oreg.

We referred this question to Messrs. F. A. Lockhart & Co., of New York State, who have had much experience with these bees. They answer thus:

In reply to Mr. Phillips' inquiry, we will say that he will find that the Carniolans are suitable for any country where any other race of bees can exist, whether it be a country that is cold, hot, wet, or dry, as the Carniolan bee is a native of a cold and windy country; showing that they will succeed in any country, for they are used to rapid changes of temperature. The rough climate of the Alpine mountains has made them a strong, robust and hardy race, for they have been hemmed in by mountains for centuries, and that no other race of bees could possibly have endured.

We have handled the Carniolans by the hundred colonies, for the past six years, and upon a series of observations and demonstrations with different races of bees as to gentleness, activity, prolifiness, working qualities, and their ability to withstand climatic changes in cold regions, we give the highest preference to the Carniolans.

F. A. LOCKHART & CO.

Uniting and Feeding Bees.

I have 3 colonies of Italians, that were late swarms, hived in common boxes. No. 1 is in a soap-box, No. 2 is in a cracker-box, and No. 3 is in a nail-keg. Quite an apiary, isn't it? Nos. 1 and 2 were bought for 25 cents apiece, and hauled 15 miles. They have no more stores. No. 3 had fall honey from golden-rod, and is also out of stores. On Jan. 26th I brought No. 2 out of the cellar, the thermometer registering 50°. I fed syrup in a plain feeder outside, and placed a screen cage over the box. The heat of the sunshine induced them to fly, and they discharged their feces (a dark-colored, ordorous fluid) all over the cage, and at night, when I put them in the cellar, half of them were dead.

On Jan. 27th I examined Nos. 1 and 3, and seeing no cappings on the bottom-board, I concluded they were out of stores. The day being warm (50° above zero), I decided to bring all the colonies out of the cellar. They had a good cleansing flight, and I fed them syrup. There were no dead bees. I returned them all to the cellar.

Now, as all the colonies are weak, and have no stores, could I, on the first warm day, take away the queens from two of the colonies, and unite all in the soap-box, which has the most combs, and feed by placing white comb honey in sections beneath the cluster? Perhaps you would say, let 'em starve, but I being a beginner, do not wish to lose them, as by trying to bring them through the winter, I will get hard-earned experience. All the bees combined now number only about 20,000.

J. C. WALLENMEYER.
Evansville, Ind.

No, don't "let 'em starve." After confinement in the cellar, bees are not very hard to unite, and you hardly need trouble to kill two of the queens. The bees will look out for that. But you must look out that the honey you feed is not out of reach of the cluster, for it's no use to give them honey if they cannot reach it.

Moving Bees in Winter.

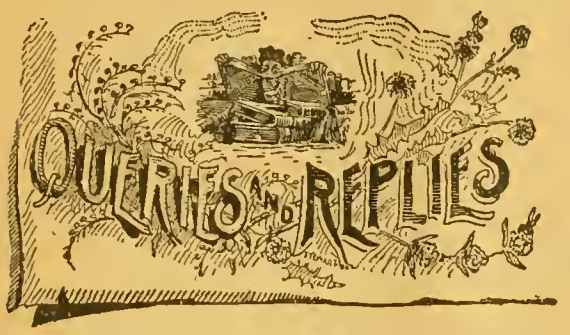
I have an apiary that I wish to move a few miles from where it is now located. What time would be best for moving it—at the present time on sleighs, with a a splendid track and lots of snow, or not until spring and warm weather? I have the hives packed away in large cases out-doors, with four hives in a case, and space enough between each one to fill in some two inches of leaves, and the same around the inside of each case. Would it do to have help enough to place those cases on sleighs as they are, already packed at this time of year, and shift them to their new location? We have had some four weeks of very severe winter weather here, and if they would do to change this time of the year, would it be advisable to leave them until after we had a few warm days, and they had

a flight, as they have been confined for a number of weeks?

I have 121 colonies in the apiary that I wish to move, and I took some 8,000 pounds of surplus honey from them last season. They were all in fine condition on Oct. 10th, when I put them away. I fed back just before packing them, some 600 pounds of honey, and weighed them up, all told, to 60 pounds. So far they appear to be wintering splendidly to all appearances. This locality is in all respects first-class, this section of country being well adapted for white clover, Alsike, bue-gloss, and any amount of basswood. F. FINCH.

Southwold Station, Ont.

It may be best for you to wait until spring has advanced enough so that you will be safe in expecting the bees to fly as soon as put on their new stands, or two or three days later. It certainly does bees no good to be disturbed in the winter, and it may do harm.



Cause of the Difference in Size of Queen-Bees.

Query 862.—1. What is the cause of the difference in the size of queen-bees? 2. Are the larger queens to be preferred to the smaller? 3. Why? 4. Is it in the bee-master's power to insure the production of large queens?—New York.

1. Better nursing. 2. Yes. 4. Yes. —DADANT & SON.

1. Food and care. 2. As a rule, yes. 4. Yes, practically.—J. H. LARRABEE.

1. Strength of colony and amount of food. 2. I don't know. 4. I think so. —EUGENE SECOR.

1. The same as makes the difference in the size of people. 2. Not necessarily. 4. Yes.—C. C. MILLER.

1. I don't know. 2. As a rule, yes. 3. They are better developed. 4. I don't know.—J. M. HAMBAUGH.

1. I think the cells in which they grow. 2. I prefer them. 3. Expect better results. 4. I think it is.—JAS. A. STONE.

1. The size of queens may be increased or diminished by breeding with that end in view. 2. I prefer them. 4. It is.—A. B. MASON.

1. I don't know. 2. I prefer large queens, every time. 3. I think they are more prolific. 4. Yes, by careful selection.—C. H. DIBBERN.

1. The difference in method of rearing. 2. As a rule, yes. 3. They are apt to be stronger, better developed, more prolific, longer lived. 4. Yes.—JAMES A. GREEN.

1. I don't know. 2. No. 3. They have proven to be no better than smaller ones. 4. No doubt, to some extent, by selecting and breeding in that direction.—S. I. FREEBORN.

Such effects are brought about by various and numerons causes; but as a usual thing a large queen is the most valuable. A good, healthy, active queen is to be preferred above all.—WILL M BARNUM.

1. Food, temperature, parentage, and general thrift. 2. Yes, as a rule. 3. For the same reason that a well-developed specimen of any animal is better than a "runt." 4. To a large extent.—P. H. ELWOOD.

1. The strain and breeding. 2. Yes. 3. If you are a practical man, just stop and think why a fine, large, strong, vigorous queen is better than a small, inferior queen. 4. To a great extent, yes. —H. D. CUTTING.

1. I am not a queen-breeder, and don't know. 2. I would say yes. 3. I should expect them to be more prolific, would be easier found, and more sure to be kept in the brood-nest by an excluder. 4. I think it is.—E. FRANCE.

1. Sometimes it is the season, and sometimes the way they are reared. 2. Yes. 3. They are stronger, and I think usually more prolific, and I should expect a larger race of workers from such queens. 4. Yes.—MRS. L. HARRISON.

1. Inherited characteristics, and early feeding while yet larvæ. 2. If more prolific, of first-class workers, which should be the best of quality. 4. I think we could breed in any direction. Mere size is not alone a desirable end.—A. J. COOK.

1. Difference in the development conditions. 2 and 3. Large queens are to be preferred to smaller ones, but we often see small queens more prolific than some large ones. 4. To a great extent —by observing the laws of queen-development.—J. P. H. BROWN.

1. It may be caused by ancestry, or from lack of care during development. Traits of family character very often overbalance stature. 2. All things considered, yes. 3. Good evidence of strength and faultless development. 4. Largely.—MRS. J. N. HEATER.

1. I don't know any more than I know why there is a difference in the size of poultry of the same stock. 2. I do not think they are. It can only be told by testing. 3. A good queen can only be told by her progeny, and large queens use the same sized cells that the small ones do. 4. I don't think it is, as yet.—J. E. POND.

1. Some are smaller by nature, and some because of defects in the method of their rearing. 2. Yes, if not abnormally large. 3. Because they are likely to be better developed. 4. Yes, in so far as he can select the parents and control the nourishing, etc., of the immature queen.—R. L. TAYLOR.

1. The queen honey-bee is the result of development, and this fact alone removes all surprise why they vary in size. 2. Not always, and perhaps seldom. The medium size is preferable. Nothing that is over big of its kind, or over small of its kind, is likely to be the best. 4. Yes, by proper management he may have his queens fully developed.—G. W. DEMAREE.

1. Temperature and the amount of food given the larvæ. 2. Abnormally large queens are seldom good layers; so also are the small ones, as well as short lived. 4. Yes, good, normally-developed queens; but I claim that they must be fed for queen development from the time the egg hatches, to get the best laying, most vigorous, long-lived queens. —G. L. TINKER.

All queens are small when not laying, and increase in size just in proportion to the number of eggs they are laying each 24 hours. Queens which are reared under favorable circumstances are usually of about the same size when they are virgins, and queens should never be reared under other but favorable circumstances; hence it *is* in the bee-masters' power to rear queens of the normal size.—G. M. DOOLITTLE.

1. Generally those started from the egg, or very young larvæ, and well fed from the beginning, are large and well developed. 2. Not always. I have had small queens that were very prolific, and I have had large ones that were valueless. The largest and finest looking one I ever had, never laid an egg, though she was in a good, strong colony in the height of the breeding season. I prefer a queen normal in size, that looks wide-awake. 4. It is in the bee-keeper's power to secure well-developed queens. —M. MAHIN.

1. There are only two main causes. In the first place, some good queens produce small, slim queens that are just as good as any, as far as I can see. In the second place, any queen reared from a larva too old, will likely be small, a poor layer, and short-lived. 2. The larger queens are usually preferred by me, unless it is in the stock, as first mentioned. 3. On account of her stout looks and general appearance; however, the largest queens are not always the best—any of them, large or small, will turn out to be worthless sometimes. 4. Permit me to select my queen mothers, and I will insure you large queens.— MRS. JENNIE ATCHLEY.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

April 5, 6.—Texas State, at Greenville, Tex.
A. H. Jones, Sec., Golden, Tex.

April 6, 7.—Kansas State, at Ottawa, Kans.
L. Wayman, Sec., Chanute, Kans.

Apr. 10, 11.—Utah, at Salt Lake City, Utah.
R. T. Rhees, Sec., View, Utah.

April 18.—Colorado State, at Denver, Colo.
H. Knight Sec., Littleton, Colo.

May 4.—Susquehanna Co., at Montrose, Pa.
H. M. Secley, Sec., Harford, Pa.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Report of the Cortland Union Bee-Convention.

Written for the American Bee Journal

BY C. W. WILKINS.

The Cortland Union Bee-Keepers' Association met in annual session at Cortland, N. Y., on Jan. 24, 1893. The meeting was called to order by President J. L. Kinney, and the reports of Secretary and Treasurer were read and approved, after which an opportunity was given the members to pay their annual dues.

The following officers were elected for the ensuing year:

President—Marion R. Wood, of Cortland.

Vice-Pesident—Miles Morton, of Groton.

Secretary—C. W. Wilkins, of Homer.

Treasurer—T. T. Barrows, of Groton.

It was voted to give their Secretary, in the future, a salary of $1.00 for each meeting, to be paid at the succeeding meeting when his report is approved.

At the request of the Secretary the Association will meet for their spring meeting at his residence, three miles northwest of Homer village, at the call of the committee. It was voted to make these spring meetings, which are held among the various members of the association at their invitation, a basket picnic, and thus share the burden and labor of supplying the assembly with lunch.

BEE-ESCAPES.

The discussions were opened by the questions, "What Has Been Your Experience with Bee-Escapes? Are they a Success?"

These questions were answered mainly by Mr. Morton, who had had more experience with them than any bee-keeper present. He pronounced them an entire success in his yard; especially so in the clearing of bees out of extracting supers, which they did quickly, and in a very thorough manner.

WINTERING BEES UNDER SNOW.

The question which has agitated the thinking powers of the apiarist, in this latitude more than any other which has been brought to bear, we believe to be found in the above words, and their discussion *pro* and *con*.

Some of those present preferred their colonies to remain underneath the snow, as the wind might leave it piled above the hive tops until the warm weather of approaching spring caused the snow to become heavy and damp; then they wished it removed before the dampness penetrated the hives. Others thought it much better to keep the hives free from snow, especially in front, claiming that their bees wintered much better in those hives where the wind kept the snow swept away, that in those covered underneath. This latter argument is based upon the point that bees, as nature gave them instinct, seek homes in hollow trees, crevices in the rocks, etc., where they are subject to the prevailing temperature, which is generally low enough to keep them in a semi-dormant condition, with the exception of perhaps an occasional flight.

When we place a colony of bees in a hive and allow them to become covered with snow to a depth of perhaps several feet, and remain thus, the order of nature is tampered with, and the "little busy bees," as they liven up with a higher temperature, imagine "spring has come with its birds and flowers," and they immediately begin to "hustle" to increase their numbers. "What is the hurt in that?" you ask. Simply this: The snow is finally removed, or melts away; the bees are brought more nearly in contact with the prevailing temperature; they find out they have been too "fast;" they have used up their honey in brood-rearing before the flowers "got there," and now their young chills in the cell, and they die with what is commonly called "spring dwindling;" or, if their stores should all have been consumed, starvation will have preceded all other ailments. Is this exaggerated? We honestly believe not.

OPENING HIVE-ENTRANCES IN WINTER.

This subject received quite a spirited and lengthy discussion. The preference seemed to be in favor of leaving a little snow over the entrance, or in not raking out the dead bees and refuse so as to hasten (or allow if it could be prevented) the flight of the bees until the temperature should reach 48° or 50° Fahr., when it would be possible for all bees in

a healthy condition to regain their wings, if they should alight on the snow.

MARKETING HONEY.

"Would it not be better for bee-keepers to be united in demanding a reasonable price for their honey at home, and not send to commission men and overload some markets, thus knocking down prices in all sections, and having to take whatever the conscience of these men will not allow them to keep for their commission, which, by the way, in *some* instances, isn't much?"

The above question received some spirited remarks, especially upon the unlimited resources of "middlemen."

SECTIONS PARTLY FILLED.

"What shall we do with the partly filled sections?" was asked. Some had tried feeding a few colonies in the endeavor to get the sections completed, but with indifferent success. It was thought best to extract those which were not full enough to be profitable to sell as light weights.

KEEPING COMBS FROM MOTHS.

This was the last subject discussed. Some preferred hanging them up singly; others fumigate them; placing them on hives, and allowing the bees to protect them, had been practiced with success where the colony was large. The only objection to the latter method seemed to be the lowering of the temperature of the brood-nest by the addition of unnecessary room in early summer.

The convention then adjourned subject to call of the committee.

C. W. WILKINS, *Sec.*

Report of the Central Bee-Keepers' Convention.

Written for the American Bee Journal

BY J. E. LYON.

The Arapahoe and Jefferson county bee-keepers met at Methodist Episcopal church in Berkeley, Colo., on Feb. 15, 1893, for the purpose of organizing a local bee-keepers' association.

The meeting was opened by prayer by H. D. Seckner, and then organized themselves into a bee-keepers' association, to be known as the Central Bee-Keepers' Association, with 22 charter members.

The following were elected as officers:

President—W. L. Porter, of Berkeley.

Vice-President—Mrs. Greer.

Secretary—J. E. Lyon, of Villa Park.

Treasurer—V. De Vinney, of Villa Park.

The regular meetings are to be held the second Wednesday of each month at the M. E. Church in Berkeley, at 10 a.m.

Come one and all, and don't forget to bring your dinner basket, and have a good time. J. E. LYON, *Sec.*

Stock or Beveridge Willow and Basswood for Bees.

Written for the American Bee Journal

BY GEORGE J. FOSTER.

But few people are aware of the immense value of the common Stock or Beveridge willow for bees in the early spring months.

The very first tree to put forth its flowers in spring is the Beveridge willow, and the eagerness with which it is sought after by the bees one can hardly imagine; they will travel miles to find such pasture, which produces a wonderful flow of honey in a very short time.

Every bee-keeper should see that his apiary is provided with say a half acre or more of these willows, which will pay for themselves the second year after planting. Nothing is more easily grown, and they may be planted in some low or wet land in any out-of-the-way part of the farm considered worthless, and which will in this way become the most valuable part of it.

The trees should be planted three feet apart in the row, with rows six feet apart. This willow delights in a rich, black, damp soil, and in such a situation will flourish with the least of care.

Take an ordinary breaking-plow, and turn one deep furrow each way, leaving what is called a "hollow furrow" where the row of trees is to stand; then place the trees along this furrow at equal dis-

tances apart, say three feet. The planting is done very rapidly with a boy to hold the tree in an upright position in the center of the hollow furrow. A man can, with a spade, very quickly throw in sufficent soil from the furrow that has been thrown out to cover the roots and hold the tree in place; then, with the foot, press the earth firmly down on them, take the plow again and turn what remains of the furrows towards the row of trees, and the work is complete. They should be plowed a few times the first season to keep down the weeds, and after this they will care for themselves.

This willow is very hardy, never winter kills, and is sure to furnish an annual and an abundant crop of flowers. Trees about six feet in height are the most desirable for planting out.

AMERICAN LINDEN OR BASSWOOD.

Another tree of great value for bees is the American linden or linn (basswood). Coming into flower later in the season they fill a very important place in the bee-keepers' pasture.

The linden is also one of our very best lawn or shade trees; being a tree of noble form and rapid growth, very hardy, and also free from all insect pests, it is one of the most desirable of all our American shade trees.

Every bee-keeper should see to it that his place is well supplied with this best of all honey-producing trees.

The American linden being easily transplanted, any one can grow them, and we need more of these shade and honey trees.

Planted in groves 25 feet apart, they also furnish excellent wind-breaks, and with their large, round leaves are very showy in the summer season.

Bloomington, Ills.

[Mr. Foster, who kindly contributes the above article, is Secretary of the Phœnix Nursery Company, of Bloomington, Ills., whose advertisement may be found on page 346 of this number of the BEE JOURNAL.—ED.]

Bee-Stings and Rheumatism—Wintering Bees.

Written for the American Bee Journal

BY WM. STOLLEY.

Of late I have seen several times mention made of this subject in the BEE JOURNAL. Many years ago I read about an old forester in Germany, having been cured from a severe case of rheumatism of long duration, by the stings of bees. As near as I can remember, the report was as follows:

The old forester, for years very much crippled and afflicted with rheumatism, was a bee-keeper. One day he went tottering to take a look at his bees, and as it happened, stumbled and fell against a hive and upset it. Being clad only in thin trousers and shirt, he was terribly stung by the enraged bees, and it was expected that he would die from the effect of the numerous stings he had received. But the final result was the other way. In a few days the old man got quite well, and was entirely cured of rheumatism.

Acting upon this report, I had occasion, some seven years ago, when a sister-in-law of mine was suffering with rheumatism, to apply the same remedy. She had tried, for a long time, the treatment of various highly-reputed physicians, and still no relief would be obtained, from all the medicines she took internally, nor the liniments used externally on the parts most afflicted.

So, one day I called at her house accidentally, and found her suffering very much with inflammatory rheumatism in one of her knees. I suggested to her to try the bee-sting cure, which she promptly agreed to.. I at once went home to my apiary and got a lot of bees, and applied six of them around about the affected knee, and, strange to say, that in about a week, and after another application of four more bee-stings, she was cured completely. She was 63 years old at the time when this experiment was made.

Again, three and four years ago, a daughter of ours (13 years old) was quite sick with rheumatism in one foot and shoulder, and I applied the same remedy. The effect was always a good one, and two or three bee-stings applied at the place most affected, would bring instant relief, and she would go to sleep soon after the application,

I subsequently, and before the attack of rheumatism came again, sent her for one winter season to the sunny South in Texas, near the Gulf of Mexico, and since then she is not any more troubled with rheumatism.

These instances may induce sufferers from rheumatism to try the bee-sting cure, and be benefited. I, myself, do believe that a dozen bees can do more to cure rheumatism than a hundred physicians possibly can. Their (the bees') remedy is applied with a point, is to the

point, and goes directly where it is most needed, and not into the stomach when the foot is afflicted. The good effect is felt almost immediately after the stings have been applied, it seems.

HOW THE BEES ARE WINTERING.

Since I last reported (Dec. 2, 1892) the wintering of bees (out-doors) has been very satisfactory. On Dec. 8th we had 8°, Fahr., below zero, and on Dec. 26th 24° below zero.

On Jan. 4, 1893, my bees had a good general, cleansing flight. Then, again, on Jan. 13th we had zero weather, and on the 15th the thermometer registered 10° below zero, and kept at zero (at sunrise) on the 16th, 17th and 18th of January.

On Jan. 20th and 21st my bees had again a good flight, when the thermometer registered 54° above zero in the shade. We have had but very little snow so far (Jan. 21st), and the bees are in the best possible condition. Should they have another good flight in the month of February, then I shall expect them to winter safely, as usual for the last 12 years, that is, without loss.

Grand Island, Nebr.

What to Do With Bees Affected With Diarrhea.

Written for the American Bee Journal

BY DR. C. C. MILLER.

I have received the following letter about bees affected with diarrhea:

"I write to ask if there is anything I can do to help my bees. I have 13 colonies in the cellar, and they all have the diarrhea, are spotting their hives badly, and have a bad odor. I cannot give them a flight for some time yet. I have your book, 'A Year Among the Bees,' and Newman's 'Bees and Honey,' and take the AMERICAN BEE JOURNAL, but can't find anything to help me out of my trouble. AUSTIN REYNOLDS."

The thing needed above all things is a good flight for your bees, and possibly you can't do much better than to wait patiently, and hope warm weather will soon come. Even if it should be warm enough for a day for them to fly now, I'm not sure but I would rather risk them in the cellar than to take them out to stay. And if you take them out on a fine day for a flight, and then put them back again, somehow that doesn't seem to work first-rate.

I have considerable faith in warmth, and if I were in your place I'd try right hard to raise the temperature of the cellar up to 50° or more. If there is any way you can have a stove in the cellar, especially a hard coal-stove, that's the thing. If the cellar is small, heated stones or jugs of water may do, but don't have hot water without having it corked up tight to prevent steam getting out. Possibly hot stones right on the hives would help, only they must not melt the combs in the hive.

If I couldn't have a fire in the cellar, I think I'd try to get on the good side of the women-folks, and get possession of the kitchen about dark, unless there is some other room more convenient. Manage to have the room very warm, but not light. Bring up the bees (you might try it first on a part) and keep them up to a good heat for several hours. I don't think it would hurt if they should go up to 80°, but mind there must be no light from the stove.

Likely they will come out of the hives in great numbers, running all over the hives, or else hanging out in great clusters. Don't be too badly scared over that; very likely they'll get back again.

Toward morning, when they have cooled off and quieted down, you can return them to the cellar. But suppose at that time they are largely out of the hives, and not in shape to be handled. Well, commence early enough so that if they have not quieted down, you can open up doors and windows and cool them off before daylight.

If there comes a time when it is as warm at night out-doors as it is in the cellar, open up the cellar doors and windows, and give them a good airing out. Very likely they will roar so as to make you think they are all going to ruin, but by morning they'll be quiet.

If a good day comes for a flight, I think I'd let them out, and then put them back at dark. Report success.

Marengo, Ills., March 2, 1893.

A "Michigander's" Experience in Modern Bee-Keeping.

Written for the American Bee Journal

BY S. D. CHAPMAN.

In the spring of 1881 my brother and I started with a few colonies of bees. At that time northern Michigan was away down near where the *Bee-Keepers' Review* is now printed. We soon heard from it up in Newaygo county, and it

has been bobbing back and forth on that latitude ever since. I don't think it has ventured as far north within 100 miles of my location.

We increased our bees to about 80 colonies in the year 1883. It was a good year for honey, and we took as high as 130 pounds of comb honey, and over 200 pounds of extracted, per colony. Our bees were all hybrids, yet they gathered so much honey that it was almost impossible to sell it all, as our home demand was light.

At this time I was taking our excellent bee-periodicals, and I soon found to follow the line of progressive bee-keeping it was very necessary to keep pure Italians, so I decided to change immediately. Let me say right here, that when I start for deep water I wade right out until there is but one little bald spot left for "Old Sol" to shine on. Just so with the bees.

I purchased pure Italian queens by the dozen from all parts of the United States. The next season I gave them plenty of room, and watched them closely. I found they commenced breeding early, and they stuck right to it until the middle of October, consequently they consumed every pound of honey they had gathered. They not only solved the problem of a home demand for all my product, but two years I bought sugar by the barrel to appease their avaricious appetites; still I stuck right to them until I discovered that one following progressive bee-keeping was always away in the rear. Now, I am not built that way. My locality demanded modern ideas and modernized bees, radical changes were necessary—often, too.

First I purchased some of the celebrated strain of "red clover bees." I had plenty of clover. This strain of bees in other localities was bringing in large yields of red clover honey annually. I found the bees all right, but the honey—well, it resembled Fay's comet—makes its appearance once in 7 or 8 years.

Next I tried some of the "best bees in the land." Here we have bees designed expressly for terraqueous purposes—all you have to do is to bury them up and they will root, hog or die. Here is some bees that "just roll in the honey." Now this rolling process struck me most favorably, and I still think if my apiary was only situated on a steep side hill, they would prove decidedly a success—they could roll down, roll up, tumble up, any way to get up.

Next, my brother purchased a selected tested Golden Carniolan queen, expressly for breeding purposes. The breeder of this fine queen kindly requested us not to rear any queens from this stock to sell, for a certain length of time; just then we thought we had got "the tip." With more than ordinary interest we watched this colony for a whole season. We found this new race of bees are very dark, more so than any we had in nearly 200 colonies, hardly one-half of them show a yellow band. We sometimes almost think they are hybrids, yet they hum around about the same as other bees, and we felt proud that we were able to show to our bee-keeping friends some of the "old original yellow race of bees."

After trying these different strains of bees, and several others, I felt some better; still I knew there was something wrong, either in the bees or in the management. All at once I discovered I had not one queen—no, not a solitary queen in the whole yard reared upon "scientific principles." That was enough. I ran to the house, pulled off my coat, and back I came into the yard, pushed the bees one side, and went to work. Within thirty days I turned out from 80 to 100 queens according to specifications. Now all these fine queens were mated to "hand-picked" drones, and right here is where the success of the whole business lies—we should hand-pick, or at least winnow, our flock of drones at least six or eight times during each season. I think now my success is assured. All I lack is a little more experience. But the fraternity may rest assured that this part of the State will keep apace with modern apiculture.

Mancelona, Mich.

The Hasty Conclusions of Some Apiarian Writers.

Written for the American Bee Journal

BY DR. A. W. TUFTS.

I wish to enter a protest against the practice of jumping to conclusions without sufficient data or evidence to base those conclusions upon. We can see the fault, or the effects of it, in nearly every bee-paper that we read for any length of time.

Some one makes an experiment in some field of apiculture, perhaps perfectly satisfactory to himself, however insufficient he may be prepared by practice, or inefficient his equipments may be for the purpose; and forthwith he

gives the results of his experiments to a waiting, eager, and weary world. And then what are they worth to any one? Has he proven them? No! If they were proven, they would be true; but that the opposite is the case any one can see by reading the "Mysteries of Bee-Keeping" or the "A B C of Bee-Culture," or any standard work on apiculture, and verify the assertions of these observers in the apiary.

Now, after reading the chapters in these standard works, on laying workers, and then seeing them in the act of depositing eggs, and watching these eggs hatch drones, just as this writer said that they would do; after reading Cook and Cowan on the anatomy of the honey-bee—that workers are females to all intents and purposes, their only defect being a want of development; and then to be told that some one "don't think" that they ever lay eggs—I say I don't think, but that I know that that writer bases his conclusions on insufficient evidence.

Another has found a laying queen in an upper story from which he is morally certain that there is no means of egress (a virgin queen can go through a pretty small hole). In opposition to the teachings of the above writers, as well as those who have made a careful and studious observation of the habits of the queen, and her habits for years, he jumps to the conclusion founded on insufficient evidence, that queen mated and became fertilized in the hive! He sits down and writes to Mr. Doolittle, giving his views, and when Doolittle suggests not only the possible or most probable, but veteran bee-keepers will say the certain solution to the difficulty or problem—a hole in the super—the bee-keeper answers, "I am not that kind of a bee-keeper." While he may not be the kind of a bee-keeper that tolerates, or has a hole in a hive, I ask in all candor and earnestness, what kind of an observer is he who takes a single incident or accident like that to contradict and overthrow all the evidence that goes to prove that queens mate only in the air?

Another follows some plan of introducing queens—more than likely it is an old one, discarded years ago by the veterans, or one that involves more work and fussing with the bees than queens, bees and all are worth, or as much time as to sit over them in a July sunshine and guard them with a shot-gun, to prevail on them to behave themselves; yet up he bobs serenely with an infallible method of introducing queens that is the joy of his heart. He would impart it to the AMERICAN BEE JOURNAL or *Gleanings*, Alley or Doolittle, for a small consideration.

Yes, I can safely say that, like taxes and the bill collector, they are always with us—those that jump to conclusions, and base their assertions upon insufficient evidence. Every season some one proves on these insufficient data that bees do steal eggs for the purpose of rearing a queen. The authors of text books quoted above tell us that it may be done, that it is not impossible, or rather that they are not prepared to doubt its possibility; yet they have never seen it, and their langugae implies a doubt.

Twice during my bee-keeping experience I have been almost certain that I had almost proven that bees do steal eggs; *but* after losing several queens, and having valuable cells torn down, I instituted a rigid search through the colony, and found an old queen only capable of laying, or at least she only laid, an occasional egg here and there, from which the bees were trying to rear a queen—I might say, to supersede her, but that would be jumping to a conclusion. As I destroyed her, I have no evidence as to what would have taken place. So my triumph where Root had failed — ignominiously failed — many times. Had it not been for my rigid training as a physician, I would have rushed into print with an account of my success, based on insufficient evidence, that would have been a reminder of my folly in after years, when more careful experiments, or the evidence of others, had overthrown my ill-based deductions.

Pity the editors, pity the readers, pity the writers, who have these so-called facts in articles attempting to prove that which we all know, or may know, are without sufficient data to make them of any value whatever, continually thrust before their eyes, and offending their judgment of the fitness of some men to observe even trivial matters connected with our beloved pursuit. If what I have written seems harsh or pitiless, it refers as much to myself as others, for who can stand in judgment on his own pet theories, or see the weak places in the evidence that supports them?

Musson, La.

Have You Read that wonderful book Premium offer on page 325?

Management for Wintering Bees in the Cellar.

Written for the American Bee Journal

BY GEO. T. GUNN.

Two weeks ago, when looking over my bees in the cellar, I found one colony that showed signs of diarrhea. There were 30 or 40 spots on the alighting-board and front of the hive that were unmistakably fresh voidings.

They were pulling dead bees out of the entrance, and making some noise (not roaring). Those they dragged out were large, and when pressed with the finger, would burst.

I knew that a cleansing flight would cure them, but that was out of the question with the mercury below zero. But something had to be done, so I took them out of the pile and pried the cover off—it was an inch board, and was glued down tight. It came off with a snap, that brought quite a number of bees up to see what was the trouble. The combs were clean, and smelled sweet, so I put the cover on again, with a piece of section under each corner.

The mercury was at 40° in the cellar then—a few days before it had been down to 33°. I put a kerosene-oil lamp on the floor near the hive, with a piece of building-paper around it, to keep the light from the bees, and shut up the cellar.

The next day I found the mercury at 52°, and the colony quieter, so I removed the lamp. One week later I examined them, and found no fresh voidings, and the dead bees at the entrance were dry and shrunken, and they were very quiet. To-day they are still quiet, and I think they are all right.

I am a firm believer in cellar wintering. I have yet to lose my first colony in wintering, but I lost one by mice getting in and eating them; they gnawed a rather too large entrance larger.

My bee-cellar is under my dwelling-house, and is also my house-cellar. In it are kept potatoes, beets, etc. My wife also keeps lots of flowers there. It has two doors, one of wire screen inside, which is covered with building-paper in the winter; the outer doors are slanting to shed rain. These doors are opened several times a day to get things out of the cellar, but I do not see that it does any harm, if they are not left open more than a minute or two, until towards spring, when they must be kept closed to keep the light out, or the bees will leave the hives.

I put the bees into the cellar soon after Thanksgiving Day, or just before, if there is snow. I like to haul them to the cellar on a hand sled, and then the snow comes handy to cover the entrance with while handling them. Entrances are open full width of the hive. The hives are piled three or four deep around the cellar, with the backs to the wall. The lower tier is on scantlings.

Towards spring the doors are opened at night, and the bees are watered by throwing snow on the alighting-boards. They are put out for a flight as soon as the weather is warm enough, then put back until settled warm weather comes.

Wall Lake, Iowa, Jan. 31, 1893.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Looking for a Good Season.

Bees have done well so far. I have lost one colony out of 38, all on the summer stands. I hope the AMERICAN BEE JOURNAL may prosper the coming year, and that I may share in prosperity also. I look for a good season.

THOS. C. KELLY.

Slippery Rock, Feb. 2, 1893.

Fine Honey Season Expected.

I have kept a few colonies of bees for the last 16 years. I make my own hives 12x16 inches in the clear, and 12 inches deep, with 8 frames. I never bothered with the bees on the summer stands before, but this winter caught me; I lost 15 colonies, which leaves me 30, all in good condition. Most of them died with plenty of honey.

I got but little surplus honey last summer, but I think we are going to have a fine honey season this year. My bees have been working a little for three or four days, and carried the first pollen to day from the maple.

F. W. WIEDEMANN.

Equality, Ills., Feb. 26, 1893.

Disastrous Season to Bee-Keeping.

The past season has been the most disastrous to bee-keepers, throughout this locality, that they have experienced in 20 years. So far as I can learn, not a pound of surplus honey was gathered, and over 50 per cent. of the bees went into winter quarters short of stores, and notwithstanding the large amount of feeding done, fully 25 per cent. are starving, which, added to the 25 or 30 per cent. losses already sustained from the extreme cold weather, so unusual in this latitude, leaves the majority of bee-keepers very much disgusted, giving the pursuit a blow from which, I fear, it will take many years to recover.

J. W. BARRINGER.

Berryville, Va., Feb. 20, 1893.

Temperature of the Weather.

If the following notes can be of any value to the "weather bureau," which was published on page 24 and on page 248, I submit them with pleasure from my daily note-book. The temperature was taken each day between 10 and 11 a.m.:

The degree columns below denote—1st. the exterior temperature; 2nd, temp. in middle of hive; 3rd, temp. at the side of hive on the last frame.

Oct.			
11	64°	94°	88°
12	64°	94°	88°
13	59°	92°	87°
14	69°	93°	87°
15	70°	94°	88°
16	73°	94°	87°
17	65°	92°	87°
18	63°	92°	87°
19	65°	92°	86°
21	64°	92°	88°
22	63°	91°	88°
23	64°	91°	88°
24	48°	90°	87°
25	48°	88°	82°
26	47°	88°	82°
27	52°	89°	81°
28	53°	89°	81°
29	56°	89°	80°
30	50°	89°	80°
31	49°	89°	78°
Nov.			
1	53°	89°	78°
2	61°	90°	79°
3	65°	90°	79°
4	51°	90°	79°
5	35°	87°	77°
6	43°	89°	77°
7	57°	89°	77°
8	62°	89°	77°
9	40°	88°	77°
10	41°	88°	77°
11	39°	88°	77°

The bees were active nearly every day, except during a sudden change. The colony from which the temperatures were taken is on the roof, the hive facing the south, and is at present doing well. (MRS.) CARRIE B. AARON.

Philadelphia, Pa., Feb. 1, 1893.

No Flight for 100 Days.

Last fall I left on the summer stands 75 colonies, from which I took 3,000 sections of honey the last season, and they started into winter in fine condition. All were in double-walled hives, and well packed, but they have not had a flight for about 100 days, and they are getting uneasy now, and I am afraid that they will suffer badly if they do not get a chance to fly pretty soon. Last winter was a very hard one on bees here; I lost from 75 colonies down to 50, and in May and the first of June I thought that we would not get any honey or swarms, but when they did commence to gather honey I never saw them build up faster or store honey more rapidly.

J. H. MANCHESTER.

Preble, N. Y., Feb. 22, 1893.

Wintering Well—Long, Cold Winter.

I have 20 colonies of bees in chaff hives, and I think they are wintering well. We have had a long, cold winter.

MRS. S. A. DAVENPORT.

Roseville, Ills., Feb. 28, 1893.

Bees Flying in Winter.

I put my bees into the cellar on Nov. 19, 1892, and there has not been a warm day since. Would it do to let the bees take a flight the first warm day, even if the snow is two feet deep? or is it better to leave the bees in the cellar until the spring, when the snow is gone?

JOHN PETERSON.

Weyauwega, Wis., Feb. 7, 1893.

[Read Dr. Miller's article on page 300 of this number of the BEE JOURNAL, which will doubtless help you.—ED.]

A Colorado Report—Mongrel Bees.

Six summers ago I came to this the Uncompagre valley, with 7 colonies of bees, in the month of June. I got 375 pounds of comb honey, and 3 swarms. The next spring I started in with 10 colonies, increased to 27, and secured 2,000 pounds of comb honey. These were the results from black bees.

The next spring I introduced 2 Italian queens, spread them out "muchly," and obtained an average of 175 pounds. My average gradually fell off to 120 pounds, until last year our State only reported one-fourth of a crop, but my average was 65 pounds. My black bees are still ahead—and I am unable to find any other bee-keeper who has made that average, even where they run part of their bees for extracted honey, and have been trying to follow Mr. S. E. Miller's plan of buying queens to improve their stock. Climate and locality may account for the wide difference of opinion on these two races of bees, but what I

have stated is no guess-work—it is on record.

Now I, like all bee-keepers, would like to get a race of bees that would produce more honey, but, when I think about it, there is one great difficulty that stares me in the face. There passes my house every fall, large herds of cattle; they are range cattle, and among them may be seen samples of all the different breeds that were ever imported to America—a perfect mongrel herd; and why? Because in a range herd they cannot be purely mated. The American people are also a mongrel race, and cannot be purely mated, still we are a pretty good, all-purpose "gang;" and may we not with some degree of reason hope that the many experimenters and speculators in queen-bees may still leave us a good, all-purpose strain of bees, though mongrels they be, in spite of all the queens we may buy to improve our stock?

Montrose, Colo. WM. WILLIS.

An Octogenarian Subscriber.

I have every volume of the AMERICAN BEE JOURNAL yet published. I commenced in 1866, and afterward procured Vol. I. For many years, at the conclusion of each volume, I had them neatly bound in cloth. It is highly improbable that I shall subscribe again, having attained my 81st year.

W. P. TAYLOR.

Fitzroy Harbor, Ont.

[We hope our aged friend may be spared yet many years to enjoy life and the old AMERICAN BEE JOURNAL.—ED.]

First Experience with Bees.

Last summer I got 4 colonies of bees, and that was my first experience. I was bothered all summer with one colony being queenless half the time, but I got 140 pounds of honey from the others. All colonies have plenty of honey to last through the winter. I read the BEE JOURNAL, and try to keep posted.

W. W. GARDNER.

Chanute, Kans., Feb. 23, 1893.

Your Neighbor Bee-Keeper—have you asked *him* or *her* to subscribe for the BEE JOURNAL? Only $1.00 will pay for it for a whole year. And, besides, *you* can have Newman's book on "Bees and Honey" as a premium, for sending us two new subscribers. Don't neglect your neighbor! See page 325

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

56 FIFTH AVENUE, CHICAGO, ILLS.

Convention Notices.

UTAH.—The semi-annual meeting of the Utah Bee-Keepers' Association will be held in Salt Lake City, Utah, on April 10, 11, 1893. All interested are cordially invited.

View, Utah. R. T. Rhees, Sec.

PENNSYLVANIA.—The Susquehanna Co. Bee-Keepers' Association will hold their 12th semi-annual meeting at the Tarbell House in Montrose, Pa., on Thursday, May 4, 1893. All are invited. H. M. Seeley, Sec.

Harford, Pa.

NEW YORK.—The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.

H. C. FARNUM, Pres., Transit Bridge, N. Y.

COLORADO.—The adjourned meeting of the Colorado State Bee-Keepers' Association will be held in the Charles Block, corner 15th and Curtis Streets, Denver, Colo., on April 18, 1893. Business important to all honey-producers will come before the meeting.

Littleton, Colo. H. KNIGHT, Sec.

ARKANSAS.—The Kansas State Bee-Keepers' Association will hold their annual convention at Ottawa, Kansas, on April 6 and 7, 1893. All bee-keepers are cordially invited to attend this convention, and make it one of the most interesting ever known. There will be a good programme. Bring something to exhibit. L. WAYMAN, Sec.

Chanute, Kans.

TEXAS.—The Texas State Bee-Keepers' Association will hold its 15th annual convention in Greenville, one mile north of the Court House, at the apiary of Mrs. Jennie Atchley, on Wednesday and Thursday, April the 5th and 6th, 1893. One of the biggest bee-meetings ever held in the South is anticipated. Everybody is invited. No hotel bills to pay. Come one, come all, and let us have a lovely meeting, and an enjoyable time. All bee-keepers invited to bring along something to exhibit. A. H. JONES, Sec.

Golden, Texas.

Webster's Pocket Dictionary we offer as a premium for sending *only one new* subscriber with $1.00. It is a splendid Dictionary—and just right for a pocket.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, March 11th, 1893 :

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted; 6@8c. Beeswax, 25c.
R. A. B. & Co.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½ ; dark, 6@7c. Beeswax—23@25c. J. A. L.

CINCINNATI, OHIO.—There is a fair demand for extracted honey at 6@8c. There is no choice comb honey on our market, and prices are nominal at 14@16c. for best white.
Beeswax—Demand good, at 24@27c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

ALBANY, N. Y.—Our stock of honey is light and also receipts. Demand keeps up better than usual this season. We are selling white comb honey at 14@16c.; mixed, 12@13c.; dark, 10@11c. Extracted, white, 9@9½c.; mixed, 7½@8c.; dark, 7@7½c. Beeswax, 28@30c. H. R. W.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

"Bees and Honey"—see page 325.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.
J. A. LAMON, 44 & 46 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & Co., 14 & 16 Hennepin Avenue

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMONS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

The World's Fair Women

"Souvenir" is the daintiest and prettiest book issued in connection with the World's Fair. It is by Josephine D. Hill—a noted society lady of the West—and contains superb full-page portraits and sketches of 31 of the World's Fair women and wives of prominent officials connected with the great Fair. It is printed on enameled paper, with half-tone engravings, bound in leatherette. We will send it postpaid for 75 cents, or give it for *two* new subscribers to the BEE JOURNAL at $1.00 each.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

EXCHANGE for Bees or Supplies, $160 in Poultry Cuts, $40 Organ Pedals, Attachments for Piano, or First-Class Printing.
L. JAQUES, Chatham Ctr., N. Y.

WANTED—A lady partner as a wife, that is a bee-keeper or that would like to learn the bee and poultry business, with a few thousand dollars to go into the bee and poultry business on a large scale; between the ages of 25 and 50 years. All letters answered. Good reference given. D. BROTHERS,
11A2t Sarahsville, Noble Co., Ohio.

BLOOMINGTON (PHŒNIX) NURSERY
600 ACRES. 13 GREENHOUSES.

TREES AND PLANTS

We offer a large and fine stock of every description of **FRUIT** and **ORNAMENTAL TREES, Shrubs, Roses, Vines, Small FRUITS, Hedge Plants, FRUIT and FOREST TREE SEEDLINGS.** Priced Catalogue mailed free. **Established 1852.**

PHŒNIX NURSERY COMPANY
Successors to SIDNEY TUTTLE & CO., BLOOMINGTON, ILL.
11A7t Mention this Journal.

REMOVED!

I **HAVE** removed my Hive Factory, Bee-Keepers' Supply Business and Apiary from Prairie Home, Missouri, to **New Palestine, Cooper Co., Mo.**—a point on the Mo. Pacific Railroad, where I have good Shipping, Express and Mail Facilities. I am well-equipped at my new stand, and can fill orders **promptly** and at **lower prices** than ever before.

Hoping that all my old customers and many new ones will avail themselves of these advantages, I remain theirs for business.
11A6t G. P. MORTON.

50 Colonies of Bees For Sale

IN 10-frame and 8-frame Hives, Langstroth frame. 10-frame, $4.00 each; 8-frame, $3.50 each. If 5 are taken at one time, 5 per cent. discount. Also. **40 Chaff Hives**, 1½ story, and **20 Root Dovetailed Hives,** nailed up and furnished with section-holders and brood-frames. Dovetailed Hives, 90 cts. each; Chaff Hives, $1.25 each. The Hives are **new** and the Bees are in **good condition.**

J. M. KINZIE,
10A2t ROCHESTER, Oakland Co., MICH.
Mention the American Bee Journal.

Electrotypes of Engravings.

WE can furnish Electrotypes of all the Engravings used in the BEE JOURNAL, at **25 cents** per square inch.

If to be sent by mail, add 10c. for postage.

No single Electrotype sold for less than 25 cts.

Measure from outside points shown, on both length and width of the printed impression.

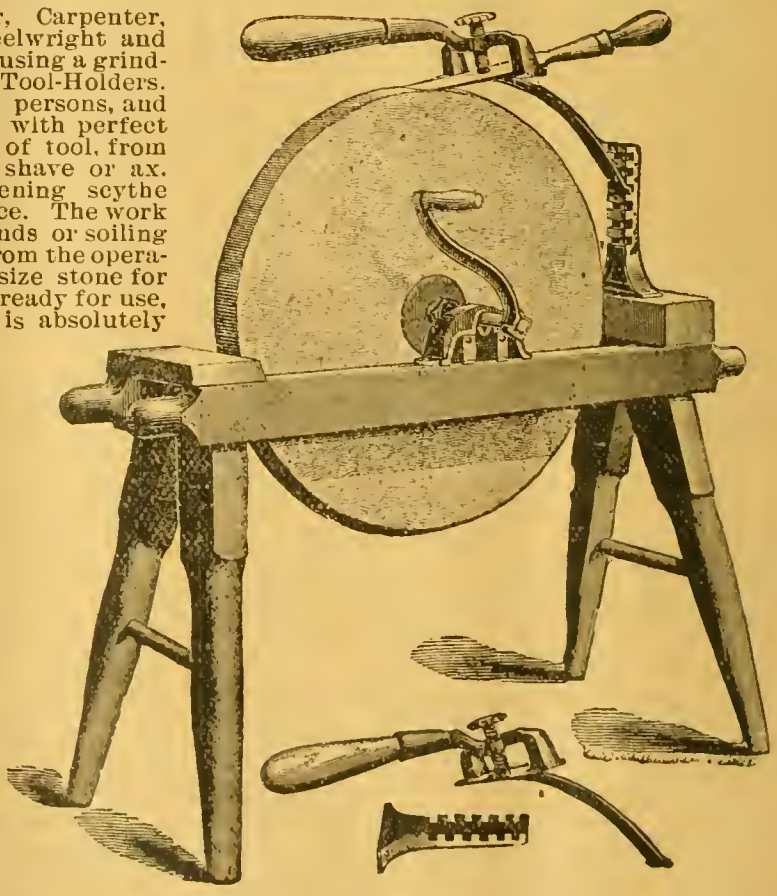
GEORGE W. YORK & CO.,
CHICAGO, ILLS.

A HANDY TOOL-HOLDER!

Sent by Express, for $2.00; or with the Bee Journal one year—both for $2.50.

Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.



How to Use the Holder.

DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.

Address, **GEORGE W. YORK & CO., 56 Fifth Ave., CHICAGO, ILL.**

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., MARCH 23, 1893. NO. 12.

Mr. Frank Benton, the new Secretary of the North American Bee-Keepers' Association, has been elected an active member of the "Entomological Society of Washington." Dr. C. V. Riley is the President of the Society. The bee-keepers of the United States have in Mr. Benton an earnest and faithful representative at our National capital.

Have Patience, friends, as the contribution which you may have sent for publication some two months ago has not been overlooked, but has simply been waiting its turn. We have a great deal of interesting matter on hand, that we have not had time to even read, much less to prepare and publish, so if your particular communication has not yet appeared in the BEE JOURNAL, please don't get uneasy or worry about it, for there are others who are waiting also. We are trying to do the very best we can to accommodate all, and would ask you to exercise a little patience in the matter.

"Bees and Honey"—see page 357.

To Indiana Bee-Keepers.—Mr. Walter S. Pouder, of Indianapolis Ind., at the request of Hon. B. F. Havens, of the same place, writes the following letter, which should be read by every bee-keeper in the State of Indiana:

Indiana bee-keepers, who are to make an exhibit at the World's Fair, *must* make application *soon*, or space cannot be reserved for them. Space can be reserved, and there is nothing compulsory about utilizing it. Thus far only a few have responded. Bees have wintered fairly well, and the honey season promises to be good. It is to our interest to have a good showing, and all expense of collecting, transporting, and arranging exhibits will be paid from the State appropriation. Make application to Hon. B. F. Havens, Executive Commissioner, Indianapolis, Ind.

In making application, state what you have to exhibit. Beeswax, comb and extracted honey is wanted for the show-cases, and bee-appliances are under another classification, but will be displayed near the honey exhibit. *Do not delay.* WALTER S. POUDER.

Let all who desire to assist in making the Indiana apiarian exhibit a fine one, address Mr. Havens *at once* in regard to the matter. The time is indeed very short, and prompt action is necessary.

Dr. Dzierzon, now in his 83rd year, received quite an ovation at the September, 1892, meeting of 250 German, Austrian and Hungarian bee-keepers, at Budapest, in Hungary. He is the "grand old man" over there.

Anti-Adulteration Letters have come in by the scores during the past few weeks, from the awakened honey-producers all over the land. The proposed Amendment to the Constitution of the Bee-Keepers' Union, which was adopted almost unanimously, shows that bee-keepers are not afraid to put themselves on record against the criminal practice of adulterating honey or other food products.

When our good friend, Chas. F. Muth, of Cincinnati, sent his vote to the General Manager of the Union, he accompained it by the following letter, with the request that we publish it:

CINCINNATI, O., Jan. 24, 1893.

I am heartily in favor of the proposed amendment, heartily in favor of the suppression of adulteration, and I am heartily in favor of exposing and prosecuting the culprits.

But I verily believe that the best chemist in America, if possessed of a fair and unbiased mind, would have been unable to find a jar or a package of any size or shape of adulterated honey within the limits of the city of Cincinnati for the last ten years, except it be some so-called "white clover" honey, put up in round bottles, and sent here from some parties in Philadelphia. It was recognized as spurious at sight, found no sale, and consequently was of no importance. Adulterated honey, put up in eastern cities and sent to Cincinnati, has been a thing of the past for many years.

We don't adulterate, and we never did adulterate, Prof. Wiley to the contrary notwithstanding. And I don't believe that with all the "soft-soap" at the command of those who have tried to use it in the matter, they will prejudice against me any one of those friends who have a close acquaintance with me. Many friends have advised me to have our honey analyzed by our best chemist here, and have him advertise the result, which I always felt to be below my honor. I admit that such "blarney" would take the masses, but—if I was adulterating, would I send adulterated honey to a chemist for analyzation?

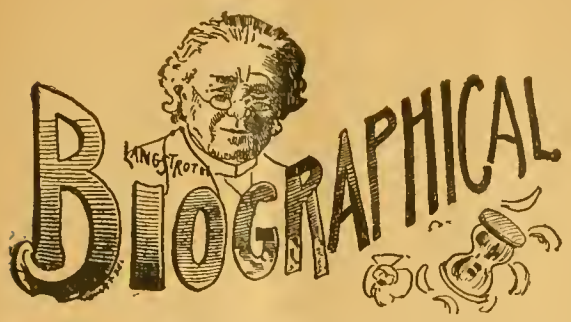
It has happened more than a hundred times that I said, or wrote, to a customer who was doubting the purity of our honey, to have it analyzed, and that I would pay the expenses, and pay him $100 besides, if he found it to be adulterated. This always brought the matter to a satisfactory end. Any responsible chemist always has been, and is now, welcome to a sample of honey for analyzation from any package in our possession. CHAS. F. MUTH.

We think that no one who knows Mr. Muth has the least idea that *he* ever was guilty of adulterating honey—he cares more for his honor and good reputation than to stoop to such a practice for the sake of gaining a few extra pieces of "filthy lucre." No, no! A dollar obtained by thus doing should burn the hand of the receiver until he ceases his nefarious work. Let us try to secure good laws upon this subject, and then help to enforce them. Simply passing condemnatory resolutions, and writing and talking against adulteration, will not stop it. A good anti-adulteration law, well enforced, will be the kind of "prohibition that prohibits," in this case.

The March Number of the *Progressive Bee-Keeper* shows much improvement both in its appearance and general contents. To look at it, one would scarcely think it had so recently been "tried as by fire." Bro. Quigley has shown courage and determination in meeting and surmounting difficulties, and should have all the success that such qualities of character always deserve. The AMERICAN BEE JOURNAL has none but the kindliest feelings for the *Progressive*, as well as all other bee-papers that are earnestly striving to further the best interests of bee-keepers.

LATER.—We now learn that the *Progressive Bee-Keeper's* list of names has been sold to the Leahy Mfg. Co,, of Higginsville, Mo., who will publish it at that place. We wish them success in their new venture.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.



MISS EMMA WILSON.

As we have so far this year catered to the fancies of the women for pictures and life-stories of men, we this week vary the proceedings, and are much pleased to be able to present to our

EMMA WILSON.

gentlemen (as well as lady) readers, one whom we know they all have longed to see.

We have not the delightful pleasure of a personal acquaintance with Miss Wilson, though we felt assured we should like her ever so much, after having read the good things that Dr. Miller tells of her in the succeeding short sketch of her life; and the Doctor ought to know what he is talking about, as Miss W.'s home has been for ten years at his house. Knowing that our very much "better half" is not afflicted with a jealous disposition, we may as well confess right here that we have a great admiration for the "queens of the home," and only wish that their numbers might be multiplied several thousand times among the readers of the BEE JOURNAL.

Begging the pardon of the readers for keeping them so long from the real biographical sketch by these preliminary remarks, we now have the honor of introducing to you, in Dr. Miller's own happy style, and also by portrait—Miss Emma Wilson, of Marengo, Ills.:

A neat, trim figure; of medium stature; not an ounce of superfluous flesh; a sunny disposition, and a face that shows it; an indomitable energy that will push through anything undertaken; a capacity for endurance and accomplishment that seems impossible in one of so slender frame—that's Emma Wilson. Her middle name is Margaret, but she seldom uses it. Just why, I don't know, unless it be that she thinks it too good a name for everyday wear; for it is her mother's name, and if there is any strongly developed trait in her character—and there are several—it is love, respect, and constantly thoughtful care for her mother. For the past ten years her home has been at our house, and in all that time she has never failed to go home Saturday afternoon or evening to spend the night with her mother (unless some grave reason prevented), coming back to church in the morning.

Her mother still lives on the old farm where Emma was born—you can see it from the window of Emma's room, three miles away—her father having died a few years ago. Her parents came from Scotland, and although she has none of the Scotch brogue, she has fully developed the usual Scotch determination of character, sometimes displaying itself as downright stubbornness.

As a bee-keeper, she is practical and thorough. Thoroughly thorough. If there is some part of the work that I think it possible I may not compass, and Emma says she will see that it is done, I dismiss all anxiety about it. She is rapid in all her work; invariably

beats me at overhauling colonies, and then I comfort myself by saying she kills more bees than I—a thing not so easily proven.

If she were keeping bees all alone, I think she would be a well-read bee-keeper. As it is, I am sorry to say, she does not do the reading she ought. Indeed, I am too much her book, and it is often comical, sometimes bordering on the vexatious, to have her array me against myself. I suggest a certain line of action, and she promptly informs me I am wrong, falling back on my previously expressed opinion or practice. Perhaps I may convince her that I have learned better, or that the conditions are different, but sometimes she is not satisfied with my reasons, holds on to the old opinion, and—I may as well confess it—has her own way. But she is so deeply interested in the success of the work that I cannot deeply grieve over her perverseness.

It would be hard to find two sisters more unselfishly devoted to each other than Mrs. Miller and Emma, for it just occurs to me I have not mentioned that they are sisters. Certain things in the matter of cookery Mrs. Miller thinks not well done unless done by Emma. The care of the house-plants is left to her, and I'm afraid the credit that I sometimes get for having nice roses in winter, hardly belongs to me; indeed, I am sure it is entirely hers, so far as the work is concerned. But we are all very fond of flowers.

In church and Christian Endeavor work, Emma is a factor, and a very active one. She is deeply interested in Sunday-school work, and a strong bond of affection exists between her and her class of girls some fifteen or sixteen years old.

Her life has always been in the country, and her tastes are all very pronounced in that direction.

C. C. MILLER.

Immediately after we had published the excellent biographical sketch of Dr. Miller (see page 105), we received the following letter from Mrs. W. H. Laws, of Lavaca, Ark.:

FRIEND YORK:—The picture and biographical sketch of Dr. C. C. Miller, on page 105, we thoroughly enjoyed. Of course we have seen his picture, and read other biographical sketches before, but never have we gotten such an insight into his life and character as was here portrayed by his genial helper, Miss Emma Wilson. With his wonderful talent for writing and giving instruction in our pursuit, his exemplary life, and his love for the beautiful, do we not all love him?

As husband and I made our way to the North American convention at Washington, it was one of our first desires to meet Dr. Miller, and hear him both in speech and song; but, alas! we were disappointed.

Now, when I started out, I wanted just to say, since Miss Wilson has so kindly "written up" our friend, the Doctor, we think it next in order to give us the picture of Miss Wilson, "written up" by the Doctor. All in favor, hold up hands.

We desire to say that we think the biographical feature of the AMERICAN BEE JOURNAL is a great improvement.

MRS. W. H. LAWS.

Well, Sister Laws, it seems that "all" were "in favor" of your motion, and to show how decisive the vote was, we need only to refer you to the previous page. Are you pleased with it all? Of course you are, and so will be the thousands who are this week permitted to see and read our department "Biographical."

By the way, it is an entire surprise to Miss Wilson. Upon receipt of your letter, Mrs. L., we immediately wrote to Dr. Miller, saying that if he would send Miss W.'s photograph and a sketch of her life, we would *surprise* her, for at least once in her lifetime.

The Doctor had an exceedingly difficult time to keep it all secret, as it was necessary to have Miss Wilson sit for the photograph in order to carry out the scheme. How well he succeeded is already shown.

That we all might fully injoy it, we wish that all could see the expression on Miss W.'s fair face, when she first opens to the page showing the picture of herself. Perhaps she will write us at least *one* of her "*surprising*" thoughts, after she has fully recovered.

Old Combs, if you have any to melt up, should be broken up fine while it is cold enough for them to be brittle. —*Gleanings.*

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Our School in Bee-Keeping.

SIXTH LESSON—THE FEEDING OF BEES.

Now I will tell you how to feed during poor years or any other time when you have to feed.

If you have much feeding to do, you had better put on the upper stories and feed with the bread-pan feeder, or any vessel that will hold about a quart. Fill the vessel with syrup made of sugar, and cut a cloth just to fill the inside of the vessel, leaving a strip of the cloth long enough to come out over the top of the vessel, and down to the frames. Now turn up the quilt at one corner, and let the strip extend from the food down to the bees, and let the cloth lay right on the syrup. Pour a little food all along on the strip to get the bees started, and all you will have to do will be to go around each evening and fill up the vessel.

The feeding should be done at nightfall, so as not to excite robbing, and in this way you can feed all you wish without drowning the bees or having robbing started. But should you wish to feed only a little, you may fill a comb and hang it in the hive, about sunset or a little later, and for stimulating it is a good way.

If you do not lookout, you will get robbing started, and then you are apt to lose as much as you have gained by feeding, as the colonies that need the least food will get the most, and you will suffer a loss in bees, besides. We cannot be too careful about robbers, for they are the worst sort of a plague when started.

HOW TO PREPARE THE FOOD.

To make the sugar syrup, I place a vessel on the stove, holding as much as I wish to make at a time, and put about three parts sugar in and one part water, and let it strike a boil; then set it off, and pour in about one part honey, if you have it, if not, use a piece of pure cream-of-tartar as large as a marble, or say a table-spoonful to a gallon of syrup, and it will seldom turn back to sugar. Then feed as above stated.

I do not like syrup made cold, that is, water poured on sugar, as it seems not to give me nor the bees the satisfaction that the boiled syrup does, but in heating the syrup we must not scorch it, as it might result in harm to the bees.

I use for spring feeding the cheapest grade of open-kettle brown sugar, or what is just as good, the settlings of syrup barrels that has candied in the grocery stores, that is, Ribbon-cane syrup. I have bought this at not over two cents per pound, and it served my purposes for spring feeding just as well as any.

Pleased to Read "Sunny Southland."

MRS. ATCHLEY:—You cannot imagine how pleased I am to read your part of the AMERICAN BEE JOURNAL, especially your instructions to beginners. I feel like giving you a warm shake of the hand, and say, May the blessing of the Good Father attend you and yours.

HORATIO N. SCRATCH.

Kingsville, Ont.

Queenless Colony—Feeding in Winter.

I made the discovery Sunday that I have a queenless colony in my yard. They have no brood from which to rear a queen. What would you advise? I have queens in the yard laying. Would you advise me to change one over, or give them brood? Or would you advise me to order a queen? I have lost one colony with diarrhea, and one starved out by robbers before I thought of such going on. It was done during the pretty days immediately following the long and severe cold weather. We are now in the midst of the coldest weather of the winter.

I notice some one inquiring through the BEE JOURNAL whether he could feed his bees in the winter; the answer by some one was that it was not practicable. I have been feeding mine all winter. I have a feeder invented (not patented) by G. H. Bymun, of this State, that is a success for feeding bees in winter. It consists of a circular piece of tin 6 inches in diameter, with a rim crimped to it like a bucket lid, around which fits a band. Slip off this band,

and stretch some thin bed-ticking across the rim, and press on the band like putting a cloth in an old-fashioned strainer. Through the tin, which is now the top, there is a hole made, to which is soldered a half-inch tin pipe 6 inches long; this reaches through a hole bored in the cover of the hive, when the feeder sets on two ½-inch sticks laid on the top-bars of the brood-frames. The super is left on, and a hole cut in the cloth over the brood-frames, for the pipe to pass through. The syrup is poured through this pipe, and oozes through the bed-ticking bottom, and it being right over the bees, they can and do eat it even when it is too cold for them to get out to the ends of the hive. If they are fed more than they need to eat, they take it up and store it in the cells.

D. L. NELSON.

Fair Dealing, Ky., March 4, 1893.

Friend Nelson, I would at once give the queenless bees, eggs and brood, and let them rear a queen; it would be cheaper, in my opinion, then if they failed to rear one, or if she failed to lay, you could buy a queen. The brood you give would keep the strength of the colony up, any way, should they not get a queen all right. I feed my bees any time when they need it.

Introducing Queens.

MRS. ATCHLEY:—In the last three lines of "How to Introduce Queens," on page 237, you speak of taking out the old queen and introducing the new one at the same operation. Will the bees not ball and kill the new queen? or do you mean to cage her in the hive? Can I introduce a queen to a colony that has swarmed out? S. M. CARLZEN.

Montclair, Colo.

Friend Carlzen, I meant to cage the new queen, and let the bees release her on the "candy plan." You can introduce a queen to any colony in the same manner, provided there are enough bees to take care of the queen.

From One of the Scholars.

The snow is going away yesterday and to-day. Four colonies have "gone up" so far. My bees have not had a general flight since Dec. 3rd. They are packed in outer cases in wheat chaff and maple leaves. I am one of your scholars.

JACOB MOORE.

Ionia, Mich., March 3, 1893.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Keeping Bees on the House-Top.

In your opinion, can bees be successfully kept on top of a house (store or residence) in a large city? How about cold winters and hot summers?

WASHINGTON, D. C.

ANSWER.—Bees have been so kept with success. Mr. C. F. Muth kept an apiary successfully for a number of years on the roof of his house in Cincinnati. The only protection he wanted was to have the *top* well covered.

Working for Increase.

We have had very cold weather here for the last 3½ months, and it has been hard on the bees. Last fall I had three good colonies of bees, and now I have one. The two were frozen in a hard block, but the remaining one is in good condition.

To how many can I increase one colony to the best advantage, in one season, so as to have them in good condition for next winter? I do not care for honey—it is bees that I want. My locality is ordinarlly a good one for bees. The golden-rod, smartweed and white clover are plentiful.

HENRY LEVELING.

East St. Louis, Ills.

ANSWER.—The number you can increase to depends upon your skill and upon the season. If the season should be very poor, it is possible that you might not be able to increase any, at least without feeding. Again, you might increase to a dozen, and have them all so weak and in such poor condition that you would have none left the following spring. Without a good deal of experience, you hardly ought to try to do more than to make two new ones for each old one, that is, trebling your number.

But if you want to increase all you can with safety, a good plan is not to divide up the one colony into a number (which you might do with safety if you knew exactly what the season would

be), but first make one new colony; then as soon as that is in good condition, make another out of the two; then a little later make another out of the same two, or out of the three, and so on, never reducing any one of them so much as to endanger them if the harvest should close any day.

Moving Bees a Long Distance.

1. Which is the best time of year to ship bees, if shipped as late as November, or as early as March?

2. Should they have ventilation at the top and at both ends of the hive?

3. Will it do to ship in unwired frames as far as from Illinois to New Mexico or Colorado by freight? And how should they be prepared?

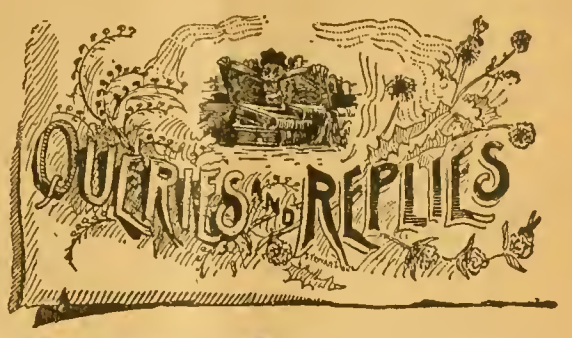
Carpenter, Ills. EDW. E. SMITH.

ANSWER.—1. Probably in March, unless so warm that they can have a good flight after shipping in November.

2. They are not likely to be hurt by too much ventilation; but whether they need ventilation at more than one place, depends upon how much ventilation they have at that one place. So early as March a much less amount is needed than later in the season, 12 to 20 square inches being perhaps sufficient.

3. Unwired frames are all right if the combs are not too new, unless in exceptional cases where they are not attached to the bottom-bar, or to the greater part of the end-bars. Particulars as to preparation for shipment depend somewhat on the kind of hive; the main thing in all cases being to have the frames fastened in some way so they will remain firmly in place, plenty of ventilation so given that it is not likely to be closed up in the car, and sponges of water to provide against thirst.

"Condensed View of Current Bee-Writing" is the heading of a new department begun in the February *Review*, conducted by Mr. E. E. Hasty. If confined to apicultural ideas and things, this new addition to the contents of the *Review* will prove very interesting as well as profitable to all its readers. We believe, with Bro. Hutchinson's usual carefulness in selecting matter for publication, nothing will appear that may not be distinguished from mere "hasty pudding." Of course *we* expect to come in for a share of kindly criticism, and hope to be able to have something in each number of the BEE JOURNAL worthy the "view" of a "condenser."



Planting to Increase the Range of Bee-Pasturage.

Query 863.—What would you advise a bee-keeper to plant for honey, in order to profitably increase his range of bee-pasturage?—Bee-Lover.

Out-apiaries.—J. H. LARRABEE.

Alfalfa or buckwheat. — WILL M. BARNUM.

White clover, Alsike clover, and sweet clover.—JAS. A. STONE.

It does not pay to plant for honey alone.—DADANT & SON.

If you own the land, plant Alsike clover.—H. D. CUTTING.

Clover and buckwheat, in my locality (Neb).—MRS. J. N. HEATER.

In this section (Ills.), linden trees and Alsike clover.—J. M. HAMBAUGH.

Basswood trees, if he is young; buckwheat, if he is old.—S. I. FREEBORN.

Plant nothing especially for honey, unless it be in waste places.—EUGENE SECOR.

I would not advise the planting of anything for the honey alone.—A. B. MASON.

For honey alone, I should say sweet clover; for honey and hay, Alsike clover. —C. H. DIBBERN.

Nothing, unless for other purposes than honey he is inclined to raise Alsike clover.—R. L. TAYLOR.

Buckwheat, Alsike clover, white clover, and raspberries for this climate. (N. Y.)—P. H. ELWOOD.

It will not pay to plant anything solely for honey. Alsike clover is good for honey, pasturage, and hay.—M. MAHIN.

I know of nothing that I would advise, except to sow sweet clover and plants of similar habits in waste places.—JAMES A. GREEN.

Plant such honey-flora as will best suit your climate. But it won't pay to cultivate plants exclusively for the honey.—J. P. H. BROWN.

Alsike in some localities; also buckwheat. Melilot in waste places, or on cultivated ground, if you teach your stock to eat it.—C. C. MILLER.

In this latitude (Wis.) Alsike clover and buckwheat. I don't know where you live. What would be best in one place, would not for some other location.—E. FRANCE.

That depends so much upon locality, and various other things, that without knowing something of the possibilities of your range, and the ownership of it, I would not advise.—MRS. L. HARRISON.

Nothing. If his pasturage is not good, it were well to move to a better field. Planting for honey alone is not considered a financial success by the most of those who have tried it.—G. M. DOOLITTLE.

Yes, if useful plants, like Alsike clover, possibly rape and buckwheat, and especially of basswoods along all the streets. Urge basswoods on the roadsides instead of maples and elms.—A. J. COOK.

I don't think it pays to plant anything specifically for honey. Bees extract their stores almost wholly from natural flowers. Civilization and agricultural cultivation diminish the natural sources on which bees forage, and from which honey is extracted.—J. E. POND.

Some years ago I scattered 10 cents worth of sweet clover seed along the railway here, and now it is scattered for miles, and promises to be of some worth to the bees. If I were to do any planting, it would be to set out all the young basswood trees I could get.—G. L. TINKER.

You must be somewhat your own judge about this. If none of the wild honey-plants that furnish your best yields will not thrive under cultivation, I would select some of the tame varieties that are best suited to your soil and climate. It would be a difficult matter to tell exactly what to plant, unless more was known of your location.—MRS. JENNIE ATCHLEY.

I cannot give advice of any value on this point, because I have precious little faith in planting for bee-forage. You can beautify your grounds by planting trees that bloom and furnish nectar, but after all, Nature must "bloom as a rose" for our bees, or the whole thing will disappoint. The "patches" of blooming plants that I have scattered by seeding the waste places, have never shown any perceptible results.—G. W. DEMAREE.

Convention Notices.

UTAH.—The semi-annual meeting of the Utah Bee-Keepers' Association will be held in Salt Lake City, Utah, on April 10, 11, 1893. All interested are cordially invited,
View, Utah. R. T. Rhees, Sec.

PENNSYLVANIA.—The Susquehanna Co. Bee-Keepers' Association will hold their 12th semi-annual meeting at the Tarbell House in Montrose, Pa., on Thursday, May 4, 1893. All are invited. H. M. Seeley, Sec.
Harford, Pa.

NEW YORK.—The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.
H. C. FARNUM, Pres., Transit Bridge, N. Y.

COLORADO.—The adjourned meeting of the Colorado State Bee-Keepers' Association will be held in the Charles Block, corner 15th and Curtis Streets, Denver, Colo., on April 18, 1893. Business important to all honey-producers will come before the meeting.
Littleton, Colo. H. KNIGHT, Sec.

KANSAS.—The Kansas State Bee-Keepers' Association will hold their annual convention at Ottawa, Kansas, on April 6 and 7, 1893. All bee-keepers are cordially invited to attend this convention, and make it one of the most interesting ever known. There will be a good programme. Bring something to exhibit. L. WAYMAN, Sec.
Chanute, Kans.

TEXAS.—The Texas State Bee-Keepers' Association will hold its 15th annual convention in Greenville, one mile north of the Court House, at the apiary of Mrs. Jennie Atchley, on Wednesday and Thursday, April the 5th and 6th, 1893. One of the biggest bee-meetings ever held in the South is anticipated. Everybody is invited. No hotel bills to pay. Come one, come all, and let us have a lovely meeting, and an enjoyable time. All bee-keepers invited to bring along something to exhibit. A. H. JONES, Sec.
Golden, Texas.

All Illinoisans should feel special interest in "Society Leaders of Illinois," published in "Demorest's Family Magazine" for April, which includes superb portraits and authentic biographical sketches of the best known and most accomplished and beautiful women throughout the State. The collection can be got for only 20 cents, together with many other fine attractions with which the "Easter Number" of "Demorest" is crowded. Published by W. Jennings Demorest, 15 East 14th St., New York.

Report of the Eastern Iowa Bee-Keepers' Convention.

Written for the American Bee Journal
BY FRANK COVERDALE.

The Eastern Iowa Bee-Keepers' Convention was called to order at 1 p.m., with President H. S. Bowman in the chair. Twelve members were present. After the preliminary business, the convention spent some time in discussions.

COMB HONEY FOR MARKET.

Preparation of comb honey for the market, and the production of the same, was first taken up.

T. O. Hines fastens a strip of comb foundation along both the top and bottom of the sections, causing the bees to fill out a very plump and nice section for the market. It also ships well.

D. Benton—I think that we should use full sheets of thin foundation; this would prevent the building of drone-comb, and help very much in securing very nice, straight combs for the market.

E. J. Petch—I shall use full sheets next season.

H. S. Bowman—Don't allow the bees to propolize the wood-work of the sections, and what little may be glued on, scrape off, and you will have neat sections of honey for the market—all other things being done right.

FULL SHEETS OF FOUNDATION.

Shall we use full sheets of comb foundation in the sections or in the brood-nest?

Mr. Hines—Foundation is no good except for guides ¼ inch along the top-bars of the brood-frames, and ¼ inch fastened along the top and bottom of the sections.

Mr. Bowman—Why not simply rub beeswax along the lower edge of the brood-frames?

Mr. Hines—Where foundation in full sheets is used, the bees secrete the wax anyhow, and it does no good. The same holds good with full combs, and the more I use them the more I am convinced of the fact.

Mr. Benton—I notice that when I hive bees on full combs, they won't leave me.

A Member—I have been taught from experience, that the bees fill out the combs faster where full sheets are used; in fact, too much honey is often stored below, and the queen is restricted in laying-room.

Mr. Petch—The bees will move the honey up into the sections if full sheets are used there also.

F. M. Merritt—I notice that where only starters are used below, the queen uses the first cells made by the new swarm.

SECOND DAY—Morning Session.

The meeting was called to order by the President.

BUILDING UP COLONIES IN SPRING.

The best way to build up colonies in the spring to prepare for a honey crop, was discussed.

Mr. Merritt—In the first place, I leave my bees out all winter snugly packed in chaff. In spring, a super is placed on top to retain the heat for brood-rearing.

W. M. Kimble—I don't think it pays to fuss much with weak colonies. Take good care of the strong ones.

D. D. Hammond—I think it is not best to draw from the strong to build up the weak, but on the other hand do all that you can to make the weak colonies strong.

Mr. Kimble—I used to advise the spreading of the brood, but if the weather proves unfavorable, the brood may be chilled.

Mr. Benton—My neighbor spread his brood last spring, and his bees far outstripped mine in strength, and gathered more honey.

Mr. Hammond—I am inclined to think, on account of the severe changes in the weather, that an amateur should go slow in this direction. About all we can do is to keep them warm, with plenty of stores.

BEGINNERS AND THE MARKET.

How can beginners be best educated not to ruin the honey market?

Mr. Hines—Buy their honey.

Byron Crevlin—Beginners, as a rule, do not produce honey that will sell on the city market.

Mr. Bowman—Get them to come out to conventions; educate them by wiser heads and bee-periodicals.

Mr. Merritt—They won't take jour-

nals. You can't do anything with them. They don't produce much honey, anyhow.

Mr. Kimble—I have offered just as much as they could get at the store, and spot cash at that, and they wouldn't sell to me, and it is often poor in shape.

Mr. Hammond—Amateur bee-keepers don't do it all. When the amateur does ship his honey to city markets, he doesn't often compete with the more experienced.

Next was the following essay by D. D. Hammond, of Malone, on

UNION OF BEE-KEEPERS.

I take pleasure in responding to a call made by our earnest Secretary, to write upon the subject of union of bee-keepers.

Trusting that all may have already learned the good lesson taught them through the nature of bees, I need not further urge the union of hands, the union of hearts, and the union of deeds, in the spirit of a true bee-keepers' fraternity; placed at the head of all animate creation, the Giver of all good things has expected we will honor and glorify the land with true and noble deeds.

Then where is union needed worse, and where is sympathy less, than in our ranks? For in a large majority of cases our noblest deeds are considered a fraud and a deception; we are suspicioned in every transaction connected with bee-keeping. In my first dealing in bees I practiced selling for less than the value of my articles; the results were I received about this class of compliments, and I guess I am not alone in the same; it was, "Beware of a tamed wolf; a baptized Jew—bee-keepers as a class!" O when shall we hail the long-looked-for day when the "lamb" of the innocent bee-keeper and the "lion" of uncultured enemies of the many true heroes who have spent many weary, toiling hours, searching deep in the genius of not only the most genial to man, but the most wonderful of all insect nature—when shall they lie down in peace and harmony on the banks of a second Jordan, when the short-comings of the few of our ranks, and the true and noble deeds of the many may be placed in rank and file with other legitimate business, and all non-union of fellowmen pass away like the dew before the uprising sun of life and light?

Dare I say I think that I am intruding upon the principles or belief in any way of the honest bee-keepers, when I say yes, a thousand times yes, in favor of the union of bee-men? The trusts of all other pursuits are constantly forming in all parts of the known world, for the protection of dishonest work and dealings. Then, why fail, brothers, in uniting to protect an honest industry? The time is coming when we should use our united effort in protecting ourselves against unprincipled opposition of adulteration against us. Then, as bee-keepers, let us rise and assert our rights in requesting all bogus honey to be sold and branded as such. In one way, and one only, can we accomplish this, and that is by our united efforts.

D. D. HAMMOND.

After the above essay was read, there was a short discussion, and it was thought that never since bee-keeping became an important industry was there more need of united effort than now.

AFTERNOON SESSION.

Do bees locate their future home before swarming? was asked.

Mr. Petch—Some swarms know where they are going.

Mr. Benton—My neighbor's bees swarmed and came right into my hive, and that without ever clustering at his place.

Mr. Merritt—It is a common thing to see bees cleaning out hollow trees in the woods.

Mr. Benton—When I have a swarm that insists on leaving me, they are supplied with empty combs, and that ends it.

It was thought by some that where bees do locate their future home before swarming, their chances are very poor to stay at home unless the queen's wings are clipped.

The subject of wintering bees was assigned to Conrad Kuebler, of Calamus, but on account of a sick child, he could not be present; however, the question received much discussion.

SUGAR SYRUP OR HONEY FOR WINTERING.

Which is the better for winter stores, sugar syrup or honey?

Mr. Hines—Natural fruits of the bee—anything else would be artificial. Sugar fed for winter stores always candies for me.

Mr. Bowman—I have had the very best of honey to candy.

Mr. Hines—That sort of candy isn't crystallized into little, hard pellets.

Mr. Petch—Some bees that I fed sugar syrup soon died, while those having honey lived through.

Mr. Merritt—When did you feed that sugar syrup?

Mr. Petch—Early in October.

Mr. Hines—Perhaps it should be mixed with tartaric acid.

A Member—Mix either with tartaric acid or about one-fifth pure honey.

WINTERING BEES.

Mr. Hines—The time that my bees wintered best was when the temperature in the cellar was at 56° for much of the time.

Mr. Petch raises the temperature after March 1st in the cellar.

Mr. Bowman—Moisture has much to do in wintering bees. If dry, 42° will do very well; if damp, a higher temperature is best.

Mr. Benton—It is my belief that bees hibernate in hollow trees.

Mr. Hines—The years they freeze in that state, that is what kills them.

The production of sugar honey was quite freely discussed, and it was unanimously thought that even if it could be produced at a profit, it would be a club furnished by the bee-keepers at large to knock out their own brains.

The following resolution was passed unanimously:

Resolved, That we tender our thanks to the mayor, and to the citizens of Maquoketa, for the free use of their city hall in which to hold our convention; and also for past courtesies shown toward us. BYRON CREVLIN, D. D. HAMMOND, F. M. MERRITT, *Com.*

A vote of thanks was extended to D. D. Hammond for exhibition of five-banded bees, honey and wax; to D. Benton, for a section-case; and to T. O. Hines for a non-swarming bee-hive.

Election of officers for the ensuing year resulted as follows:

President—H. S. Bowman, of Maquoketa.

Vice-Presidents—Byron Crevlin, D. D. Hammond and T. O. Hines.

Secretary—Frank Coverdale, of Welton.

Treasurer—W. M. Kimble, of De Witt.

The convention adjourned to meet at 1 p.m. in Delmar, on Dec. 13, 1893.

FRANK COVERDALE, *Sec.*

Webster's Pocket Dictionary we offer as a premium for sending *only one new* subscriber with $1.00. It is a splendid Dictionary—and just right for a pocket.

Read our great offer on page 357.

South Texas Bee-Keepers' Convention Report.

Written for the American Bee Journal

BY T. H. MULLIN.

The following bee-keepers, viz.: Mr. and Mrs. W. O. Victor, R. A. Jansen, R. A. Armstrong, Jr., and H. J. Moses, of Wharton; and Messrs. J. H. Mullin and son, of Oakland and Eagle Lake, met on Feb. 25th at the apiary of Mr. W. O. Victor, in Wharton, Tex., and after a temporary meeting, with Mr. R. A. Jansen Chairman, and Mr. T. H. Mullin Secretary, a permanent organization was effected, to be known as the "South Texas Bee-Keepers' Association;" Mr. W. O. Victor President, and Mr. T. H. Mullin Secretary.

The object of this organization is to further the interest of the honey-bee, and discuss bee-ology to the advancement and benefit of the bee-keepers. The members present represented 508 colonies of bees, spring count, and 35,000 pounds of honey, and 300 pounds of wax as their last crop.

The prospects for an average honey crop this year were discussed, and decided good.

An amount sufficient was furnished the Secretary for stationery, with instructions to invite all bee-keepers of this section to join us.

Many subjects were discussed pertaining to the busy bee, and the many ways of working them to the best advantage. A bottle of "pure honey" (so-called), purchased in Houston, Tex., and prepared by Geo. K. McMeacham & Sons, of Wheeling, W. Va., was presented the Association by the President; it was examined, and passed upon as being minus any taste or quality whatever of pure honey. It was decided to send a sample of the honey to Mr. A. I. Root for further investigation.

The Secretary was instructed to send copies of the proceedings of this meeting for publication to *Gleanings* and the AMERICAN BEE JOURNAL.

The association next meets on May 18 and 19, 1893, at the apiary of Mr. W. O. Victor, of Wharton, Tex. All bee-keepers are respectfully invited to attend. T. H. MULLIN, *Sec.*

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

Colonies for Comb or Extracted Honey—Sting-Trowel Theory.

Written for the American Bee Journal

BY DR. C. C. MILLER.

On page 110, to the question how many colonies run for comb honey should be kept on a range which supports 75 for extracted honey, there is a variety of answers, ranging from the same number to double the number. I suspect the reasoning on one hand was something like this; Only half as much comb honey can be harvested by each colony as extracted; consequently there must be twice as many colonies to gather it, forgetting that a good part of the honey must be counted to make wax and to feed bees.

On the other hand, those who say there is no difference, reason that if 75 colonies clean the field, it doesn't make any difference what they do with the honey, whether they store it all as extracted honey, or make part of it into wax.

I suspect those who took medium ground were more nearly right. For the sake of illustration, suppose a single colony cleans the field, working for extracted honey, there being 40,000 bees in the colony, and 20,000 of the 40,000 working in the field. Suppose they store 80 pounds when working for extracted, and 40 when working for comb. If it takes 60 pounds to support the colony, then when working for comb honey, they must have a field that affords 100 pounds, and when working for extracted honey a field that affords 140 pounds. So it will not do to say that the same number will work the same field in each case, unless you say that they will store an equal amount of extracted or comb. Possibly some may have believed this, in which case their answer was correct according to that belief.

THE STING-TROWEL THEORY.

Here's an item clipped from the Chicago *News Record* of Jan. 26, 1893, and credited to the Baltimore *News*:

"FUNCTION OF A BEE'S STING.—It will be a surprise to many to learn that, after all, the most important function of the bee's sting is not stinging. I have long been convinced that the bees put the finishing touches on their artistic cell-work by the dextrous use of their stings, and that during this final finishing stage of the process of honey-making, the bees inject a minute portion of formic acid in the honey. This is, in reality, the poison of their sting. The formic acid gives to honey its peculiar flavor, and also imparts to it its keeping qualities. The sting is really an exquisitely contrived little trowel, with which the bee finishes off and caps the cells when they are filled brimful of honey. While doing this the formic acid passes from the poison-bag, exudes drop by drop from the point of the sting, and the beautiful work is finished."

If I am not mistaken it is the same item that was clipped from an English paper not long ago and sent to the *British Bee Journal*. So it seems to have started on its travels across the water, and is now having a wide circulation on this side. If this were its first appearance, it would be promptly denounced by the bee-papers as the foolish lie of some penny-a-liner. And is it any more to be passed by in silence, because it emanated from one who is the president of an apicultural college—the only college of the kind, is it not, on the continent? For all who were familiar with the bee-literature of a few years ago will recognize in the item the "sting-trowel theory" of Rev. W. F. Clarke. The only addition to the original theory is that the poison is here credited with giving honey its flavor.

So far as I know, Mr. Clarke never gave the slightest hint of any proof for his belief. He didn't pretend to have any. Surely, if bees use their stings as trowels in wax-building, he ought at least to have looked and seen them at the work before sending out his wild guess. For thousands of bees are constantly engaged in the operation in the busy season in any apiary.

If Mr. Clarke has the feeblest proof for his statement, I hereby challenge him to publish it; and if he has not, I ask him, in the interest of truth, to do all he can, even at this late day, to undo the harm done.

Marengo, Ills.

Divided Colonies—Writing for the Press.

Written for the American Bee Journal

BY J. H. ANDRE.

Query 849—"Having Divided Colonies as Good as Natural Swarms"—reminds me of my experience in this line. The best success I ever had was in drumming out a swarm and removing the colony, putting the new swarm in its place. If there is much larvæ in the hive, some of it should be removed, as it might not be properly attended if the drumming is quite through. It is a question to me if it is best to give the removed larvæ to the new swarm. I sometimes think nature is destroyed in doing so.

If a large swarm is drummed from a strong colony, they will hardly need any additional strength. Giving them brood might partially discourage the great energy I have always observed when they are left as a natural swarm (probably others will differ from me in regard to their being a natural swarm. Well, perhaps they are not; but if not, then a queen they are forced to rear is not a natural queen). I have sometimes thought if larval brood is removed it would be best to give it to another colony, and replace with sealed brood. A laying queen should be given them immediately, if possible. This saves the two weeks or more of lost time it takes them to rear one.

I have tried the plan of giving colonies laying queens after they had cast one large swarm, by destroying cells and queens. Such colonies were very profitable, holding strength well until late in the season.

BEE-STINGS FOR RHEUMATISM.

Probably the cases of rheumatism being cured by the stings of bees, which are mentioned in the BEE JOURNAL, were caused by too much alkali in the system. No doubt an acid, rheumatism would be greatly aggravated by the same remedy. In fact, I think it is a prime cause in many cases, my own being one of the latter.

FAIR PLAY IN LITERARY WORK.

I have read Mr. Wm. F. Clarke's article on page 827 of the BEE JOURNAL for 1892, and know how he felt when he wrote it.

I am very sorry we cannot all think alike in being careful not to send matter for publication which is likely to give offence to others. Oftentimes the one trod upon is just in the primary of his or her literary abilities, and with a little encouragement might make a first-class writer. Alas, a slur discourages forever. If there is any class that is more sensitive than those in limited financial circumstances who depend in part for a living upon their pen, I have failed to find them.

I have been attacked through the local press, and know how it feels. When paraded as a contributor of a leading New York paper, and liable to be appointed confidential advisor to the Postmaster General for trying to right a wrong, I sent the clipping to the agricultural editor of said paper, and his reply was: "I have heard nothing from your enemies, and it will make no difference if I do; I judge articles by their merit. Be sure you are right, then go ahead." Well, it spurred me on to right the wrong, and the consequence was the writer of my local advertisements was indicted for selling alcohol in the post-office, fined, and driven from the office. He also had a plurality of wives.

My rule in writing is to strive not to offend any one. I do this for the reason that it is my principle. Also, others are not interested in reading the petty differences between two persons; and, most of all, I fear I might drive some one out of the paper of far greater worth than myself.

Now, brothers, I am sorry if I have ever given offence; well pleased to hear of your successes, and sympathize with you in your losses. Let us all shake and be friends.

Lockwood, N. Y.

Divlding the Colonies vs. Natural Swarming.

Written for the American Bee Journal

BY J. C. BALCH.

I want to give Mr. Wooldridge (see page 116) some pointers on dividing against natural swarming. I, too, am in favor of dividing where it is properly and not too "numerously" done. The way I proceed is this:

As soon as the first colony has queen-cells nearly ready to cap over, I take a new hive to that colony, open the hive and hunt the queen. When I find her, I put the frame that she is on, with all adhering bees, into the new hive, then take out one frame with some brood and some honey, and put in with the queen. Then fill the new hive with frames with

full sheets of foundation, or at least with starters, to insure straight combs, and place the new hive where the old one stood. Then put two frames of foundation starters in the old hive, where you took the queen and brood from, and move it to a new location. This work should be done in the forenoon of any warm day, when the bees are flying briskly.

In five days, if your colonies are all strong and making preparation to swarm, divide what are left, or as many as you think proper, leaving the old queen in the new hive, on the old stand, and moving the colony to a new place; then the next day go to the colony that has been queenless six days, and cut out all queen-cells but the one that looks the most advanced, and one of a later date (to insure a queen if the first doesn't hatch). Now insert one of the best of these cells in each of the queenless colonies, by removing one of the most advanced of their queen-cells, and putting the new one in its place; it will insure them a queen from six to twelve days earlier than they would rear one. I would use only the best cells, and destroy the inferior ones, and I would divide my best Italian colony first, that might rear a good quality of queens.

I don't think there will be any danger of after-swarms from those colonies where the queen-cells are inserted, as the new queen will hatch before much of the brood is hatched, and there not being many field bees in the hive, the queen will destroy the other cells.

Bronson, Kans.

Closed-End Brood-Frames and Their Use.

Written for the American Bee Journal

BY REV. W. P. FAYLOR.

This subject having been discussed in the various bee-publications during the last few years so thoroughly, it may seem useless to some to speak out again about brood-frames. It is not so much the "pros" and "cons" of a standing closed-end frame that I wish to impress upon the mind of the reader, as the way to use such frames.

The first kind of closed-end frame I tried was after the Bingham pattern. I made two hives of this kind. My greatest objection to frames used as Mr. Bingham used them, was the difficulty in keeping them even, lengthwise. Neither did I like the wire attachment to tighten the frames. More than this, whenever the frames were all taken apart, I hardly knew what to do with them. They would topple about like so many sticks of wood in trying to make one frame stand until another could be placed against it. I used these hives one season, and then they went "the way of all the earth."

When I saw an illustration of the Quinby hive, as used by the Hetherington, like many other bee-keepers seeking after something new, I "waded into" a few of these. Of course I did not like the cord or string looped about the panels and frames, but the worst feature of all was found in those miserable hooks attached to the frames. To use a hive two tiers or more high, the hooks had to be left poking out at the top. What did I do with these hives? Well, they disappeared somewhat like the morning fog. They did not go up to come down again, but they went down to "come up no more."

In regard to the Hoffman frame, I may here say that I never took much stock in it, as readers of the back numbers of the BEE JOURNAL very well know. It was invented more for moving purposes than anything else, and I have always thought, like Mr. Heddon, that it was boomed temporarily, like the auctioneer's razor—"to sell." Perhaps in this I am mistaken. I hope I am.

About the time the junior editor of *Gleanings* gave the Hoffman frame such merited praise, I received samples of these frames from other sources than Mr. Hoffman, with a request to give my opinion of the same through the BEE JOURNAL. In doing so, I received the most abusive letter the next week that I ever received in my life. That letter had about as much force on "my jolly heart" as a snow-flake would have on a locomotive.

When I first tried the closed-end frame, I did not think it could ever be used successfully, but the way I now use it, it can be used in any common hive, such as the dovetailed.

HOW I USE CLOSED-END FRAMES.

Nail a strip of wood ⅜ of an inch wide, and bee-space deep, on the inside end of the hive, down even with the bottom. Tack a strip of tin against this, so as to project upward ¼ of an inch above the wood strip. Cut a square, or rabbet out of all four corners of the brood-frame ¼ of an inch deep. Thus you see the frames will stand on the tin rests with a bee-space between the end of the frames and the end of the hive. The frames are to be low enough to

have ¼ inch space above the brood-frames, and ⅜ of an inch should be allowed between the ends of the frames and the ends of the hive, or the frames should be ¾ of an inch shorter than the inside length of the hive. By using two division-boards as "followers," a bee-space will be had on every side of the brood-chamber. This is not necessary unless desired for a double-walled hive for wintering out-of-doors. It also allows space for packing with pasteboard or paper above and around the brood-chamber for economizing warmth in building up weak colonies in the spring.

HOW TO HANDLE THE FRAMES.

First, the brood-frames should be tightened or compressed with a "follower" and wedge, or thumb-screws. If a "follower" and wedge be used, both must be made tapering; that is, the "follower" should be (say) ¾ of an inch thick at the bottom, tapering to ¼ of an inch at the top, or nearly so. The wedge must be made in shape like a rail-splitter's wedge. I think thumb-screws the more preferable, doing away with division-boards.

Suppose I wish to find the queen in hive No. 1. I go to the hive and pick out one of the middle frames. Sometimes she will be found on the first comb. The frames can be slid either way on the tin rests. In returning the frames to a hive, smoke the bees to one side of the hive; when you get a few frames in place, the bees will scramble back to the other side of the hive, leaving the side free from bees in which to place the last comb.

A more rapid way to handle the frames is to turn the brood-chamber upside down, and the whole body of frames will slip out together, and can be separated with knife in halves, pairs or trios, as may be desired, and placed in the hive while the bees are outside, and the whole hive slid back on the bottom-board again.

In using this hive for the extractor, the whole set of frames can be extracted and replaced in the hive without a bee in the way to replace the frames; and this body of frames exchanged with the body for the upper story of the next hive, and the operation repeated throughout the whole apiary.

The end projection of the top-bar to a hanging frame is always in the way to use rapidly in the extractor; with my frame, this objection vanishes. With the suspended frame the combs are seldom built to the bottom-bar, leaving a good lurking place for the queen, and wiring brood-frames is often resorted to in hot climates.

With the closed-end frames as I used it, this is all unnecessary.

Perhaps I had better here state that for the extractor use, the end-bars should be all made 1½ inches wide; for comb honey they need not be spaced quite so wide. I prefer one of the long bars to be made triangular, as the bees will build the combs truer out to the end-bars, and foundation can be fastened more easily and better. My frame is 17½ inches long, and 9 inches deep, outside measure. The bars are ⅜ of an inch thick. If the end-bars be made of poplar wood, they will not swell like pine; but pine will not swell so much after used a year or two.

La Porte City, Iowa.

Some Successes and Discouragements in Bee-Keeping.

Written for the American Bee Journal

BY A. E. BRADFORD.

Last season was one of the hardest on bees that we have had in a number of years, so the old bee-keepers tell me that live in this county. I am young at the business, if not in years.

I commenced in the spring of 1889 with 20 colonies, and took off over 3,000 pounds of comb honey in one-pound sections, besides an increase of 20 colonies. Being anxious to get 100 colonies, I saved all the swarms, and about one-half were second swarms. In the spring of 1890, all the second swarms that I had wintered, emigrated—some to the woods, but most of them went into other hives that had plenty of bees and honey, and when the honey-flow came I had 30 colonies left, and half of them were robbing. I used to sit and bet which hive would get the most honey, and they kept it up all summer, for they did not have anything else to do, as there was no honey in the blossoms to amount to anything, for I only took about 200 pounds of comb honey and no increase, or five swarms, which gave me 30 colonies to put into the cellar.

I decided to try a new "kink" in putting my bees out in the spring, so after it had got nice and warm in the spring of 1891, I put my bees out—not in the daytime, but at night, and I only took out 10 hives and set them 16 or 20 feet apart.

The next night I put out 10 hives more, and that way I kept on until I had

them all out on the summer stands. I had no trouble in their coming out and going into other hives, but they were very light in honey, and before I knew it some had dwindled down so that I doubled up until I only had 20 colonies left, but they were in good condition, and the summer of 1891 I got 1,500 pounds of comb honey in one-pound sections, with an increase of 20 swarms. Like a fool, I kept them all over the winter until the spring of 1892, and then after I put them out 2 colonies starved before I knew it, and some more of them were so light that I doubled up so that I had 30 colonies in fair condition. Then I went to feeding, and I had to keep it up until I had fed about 200 pounds of honey and sugar, and it kept them rearing brood so that when the honey-flow came I had 30 hives full of bees, and I took off 1,100 pounds of comb honey and 650 pounds of extracted; and for all my success I give the AMERICAN BEE JOURNAL credit.

Hammond, Wis.

A Beginner's Interesting Experience with Bees.

Written for the American Bee Journal

BY WALTER SHIVER.

Last winter (1891–92) I bought 5 colonies of bees in box-hives. The holes for the bees to go in and out of were large enough for cats to crawl through. I made some hives to suit myself, as I have no patent on them. Then came the "tug of war" for one who did not know anything about transferring bees.

So I subscribed for the AMERICAN BEE JOURNAL, and also got a bee-veil about April 5, 1892, and on April 15th I put on the veil and started to transfer the bees. I got one of the old box-hives on a table, spreading a quilt on it, and gave the bees a dose of smoke, and commenced tearing the box-hives to pieces. Such a job you never saw, for it was nailed with 20-penny nails, and five or six center sticks for the bees to build their combs on. I told Mrs. Shiver to look out for the queen, for neither of us had ever seen one.

There was about a bushel of bees in the hive, and Mrs. S. said: "I don't see any queens, but what a lot of 'kings.'" We have learned since then that they were drones! When I was cutting the comb and putting in the frames, I said, "Now, don't be scared," for she was completely covered with bees, and so was I. She said, "Well, your eyes look as large as a tea-cup." I admit that I was scared. Eight or ten bees got under my bee-veil, and I thought that Mrs. S. was right, for my eyes *felt* as large as tea-cups.

But the most trouble that I had was to put a bushel of bees into a half-bushel hive. But when I put them back on the stand, they were glad of it, I tell you, and so was *I*. They had a jubilee over it, they were so glad. They were racing and tumbling and rolling, four and five together, until nearly sundown. I found out that it was bees that had come to see the transferring, and to see if they would like to be transferred next. So I thought I would put a stop to that. I took them to a tight room, and I had no trouble with them. After that I took the windows out, and brushed the bees out of the room.

The last spring was a very bad one here. No one secured any honey. About Aug. 15th I took out about 10 or 15 pounds of good honey. Then I had to go away for two or three weeks, and when I came back I examined the bees and found every hive with surplus honey. I took out a frame, and was about to take out more, when my wife said, "Whoopee, *taste* it!" and behold it was bitter. What was I to do with it. I had 12 hives with 8 frames in each one. It was not honey-dew—it was stored from what is called the yellow dog-fennel here, and the country abounds with it. The surplus chambers were full of it, about 6 pounds to the frame, and eight frames to the chamber.

My hives are double, and the two are 26 inches from top to bottom, and made out of 1⅛-inch lumber. We winter our bees on the summer stands here.

My neighbors that have had bees for years, say that I have got the prettiest and best hives they ever saw. They are all painted red, white and blue, and they are all numbered; and because my bees have done nothing for me last year, I am not discouraged. Some of the neighbors think I am a great bee-man, and get me to hive bees for them. I divided two of my colonies, and thus made four out of them, and a neighbor gave me a queenless colony—the queen had been drowned, I suppose, by her owner getting honey out of the top of the old box-hive.

I bought three Italian queens, and I did not throw them over the house nor against the lightning-rod, nor up in the trees, as Mrs. Atchley once wrote of, but I simply pulled the corks out of the cages and loosened up the honey that had been put in the cage for the queen,

and I tied a string to the cork, then I put the cork, just lightly, into the hole it came out of; I set it in front of the hive, and in five minutes there was a ball of bees on it as large as my two fists; then I raised it up carefully and put bees and all into the brood-chamber on top of the frames, and I pulled the cork with the string, and put the cover on the hive. It wasn't two hours before all 3 colonies were working well, and in two days I took the empty cages out, and in 30 days I noticed the yellow bees on the fronts of the hive. Now I have 2 colonies of very nice Italians. The other one was not a pure queen—I think she was mixed. She is very good, though, and had lots of bees. I am not yet prepared to say which I would rather have, the Italians or black bees, but next summer I will report.

I don't care how far my virgin queens go to mate with drones, just so they mate with good ones.

Hope, Ark.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Prediction for the Honey-Flow of '93.

As promised, I will give the readers of AMERICAN BEE JOURNAL my predictions for the honey-flow for this year. To be as brief as possible, I will say the crop of white honey will be short. You need have no fears of the markets being flooded from southern California, nor from the West, but there ought to be a good flow in western Nevada, around about Reno.

The big bee-men of New York will not have the big yields to hide from the public this year; their crop will be short. There ought to be a fair yield in Massachusetts, Rhode Island, Connecticut, southern New York, New Jersey, and eastern Pennsylvania. In Ohio, the eastern central part will have close on to, if not a total, failure.

The western part of Michigan, along the lake into northern Indiana, ought to have a fair yield, or better than other parts close by. Also southern Illinois, western and southern Kentucky.

Minnesota will have a failure, and the northwestern part of Iowa, but eastern Iowa ought to have a fair yield, and especially the southeastern part, close to the Mississippi river. We will also have a better yield here in eastern Tennessee than we have been having.

Let all the bee-keepers watch the honey-flow. I don't know anything in regard to the weather, but only as to the honey-flow. Whether flowers contain nectar or not, let all watch, and then report. The above has reference to linden and white clover.

SAM WILSON.

Cosby, Tenn., March 10, 1893.

Report for Two Years.

In 1891 I had 600 pounds of comb honey in pound sections, and about the same amount in frames. Last year I sold only $3.00 worth of honey from 57 colonies of bees. J. SHAFFER.

South Park, Ky.

Bees All Right—Re-Queening.

Bees are all right so far. We have had a very cold winter. I winter bees in chaff hives on the summer stands. Last year was a poor season for honey—I had only 300 pounds from 25 colonies. I would say to S. A. Smith's first question, on page 266, the best time to re-queen is in the early season. 2. I find queens reared in the fall just as good as in May. 3. Just as good, for I have tried them. A. A. SIMPSON.

Swarts, Pa., March 6, 1893.

Wintering Bees Out-Doors, Etc.

I have been keeping bees, in a small way, for more than eight years. I have been a careful observer, have read Langstroth's, Root's, Newman's, and other works on the honey-bee, and have been successful as far as I have gone; but having a large farm to manage, I paid more attention to the farm than to bees. I usually keep from 10 to 20 colonies, and sold them when I had more. I am now getting old, and can no longer follow the plow, so I shall pay more attention to bees.

Last spring I had 11 good, strong colonies, which increased by swarming during the season to 18, and produced

800 pounds of nice comb honey in sections. One of the new swarms I hived in a dovetailed hive; the rest of my hives are the 10-frame Simplicity. I like the dovetailed hives so well that next spring I shall transfer *all* to that style.

I winter my bees on the summer stands, preparing them after this manner: About Nov. 1st I see that the brood-chamber is full of honey and bees, and that they have a queen. Then I place over the frames "Hill's device," or three corn-cobs across the frames of each hive, forming a space for the bees to pass over the top of the frames. I then cover with burlap, place on the second story, fill it with oat chaff, and put on the cover. Then I pile up around and over the hive some prairie hay or straw, leaving the front side and entrance open, and leaving a wide board up in front and against the hive; the board to be used as an alighting-board on warm days when bees are on the wing. I do not allow the entrance to be clogged up with ice, snow or dead bees.

I have followed this plan for eight years, and have not lost a colony when cared for in this manner.

We have a very good bee-country here, and I shall now try to build up a good apiary. JEROME BARNELL.

Wahoo, Nebr.

Bee-Yard Under the Snow.

The snow is about four feet deep on a level in the woods, and the roads are about all full, and my bee-yard is out of sight, hives and all. We can beat Dr. Miller's locality on cold, as it has been 30° below zero here. My bees have had only one flight this winter; then they showed diarrhea badly.

H. M. SEELEY.

Harford, Pa., Feb. 27, 1893.

Bee-Keeping in Tennessee.

Our winter has been severely cold. It set in Jan. 1st, and continued until Jan. 22nd, when the bees flew a little for the first time since Dec. 31st, being confined three weeks of about the coldest weather we ever had here. The cold wave was the most destructive to bees that I ever saw in this country. Some colonies froze clean out; others half froze to death. I lost 3 colonies, and others lost from one to 20. From Jan. 22nd to Feb. 17th it was warm most of the time, and rainy. Jan. 13th was the coldest day, and the night of the 15th was the coldest night.

Bees have been flying some every few days from Jan. 22nd until Feb. 17th, when it turned cold again. There is no pollen yet for bees to get. As they are beginning to rear brood they will need some fresh pollen to help them along. I will have some oats and wheat ground together as a substitute, and they work on this in the warm days finely. I think we will have a good honey-flow this year, as the prospect for white clover is good.

Bees, at this time, are housed up, and it looks at present as if they would not be out for several days yet. Last February, at this time, bees were gathering pollen.

On page 184, Mr. John Boggs asks a question in regard to Italian bees as honey gatherers. My experience is that the yellow bees gather more honey than the hybrids; they also build up faster in the spring. The hybrids are worse to swarm than the yellow ones, and are worse to sting than the golden Italians. My yellow bees protect their homes better than the hybrids. I don't think that Mr. B. has made any mistake in the purchase of the golden Italians. I think he would do well to purchase golden Italians for all his colonies, that are not full blooded Italians. A. C. BABB.

Greenville, Tenn., Feb. 20, 1893.

Severe Winter for Bees.

It has been a severe winter here, with a great deal of snow, but my bees have so far managed to keep alive, although they run great risks sometimes in order to take a flight, and a great many fall into the snow and perish.

A. A. BRIGGS.

Newton, Mass., March 6, 1893.

How Far Bees Go for Honey.

I have hunted bees in the woods for the past 12 years, and have found them to go over four miles to work on horsemint, for it is a good honey-plant in this location. In 1888 I received a good yield of honey from it, and it was as nice as any clover honey I ever saw around here.

I was out one day hunting bees in the mint location, in 1891. I caught some bees and put them into my bee-box to get them at work. So I got some bees back on my combs, and I moved the combs on the line to find the bee-tree; so I kept on moving, and I got out of the woods to a marsh. From the marsh it was over three miles, and I had run

them one mile in the woods, and I could see them go straight to my bees. There was not one tree between my bees and the marsh, so I was not sure. I began to work them on my combs, to see if I was right, and I moved to my bees at home. It was a poor season here.

I found, in my experience in hunting bees the past 12 years, over 50 swarms. I did not receive much honey in the year of 1892. I had about 40 colonies, spring count. The clover did not yield very much here last season. I got about 300 pounds of extracted honey, and about 50 pounds of comb honey from asters, and some from horse-mint. The mint does not yield honey well every year here. When it does yield, it is splendid. I hope we will have a better season this year. I have my bees in the cellar, and they are very quiet at present. FRANK STEPHENS.

Hageman, Ind., Jan. 20, 1893.

Honey-Dew Did It.

In the fall of 1891 I had 72 colonies of bees on the summer stands, packed in good condition; in the spring of 1892 I had 2 colonies left. So much for honey-dew. WM. ALLDRITT.

Morrison, Ills., March 3, 1893.

Moving Bees in Winter.

I commenced bee-keeping in 1890. My whole delight is in reading the BEE JOURNAL carefully every week. As it may interest Mr. F. H. Richardson, I would say that I moved my bees on Jan. 7, on a mud-boat, and the snow was 10 inches deep. I don't think it injured the bees any at all. I noticed with pleasure, on page 204, that Mrs. Atchley is going to teach me something about keeping bees.

JOHN V. EMMERT.

Lebanon, Ind., Feb. 18, 1893.

Bees as Weather Prophets, Etc.

I see that the BEE JOURNAL of March 2nd says that the name of Quinby, to most of the readers of the AMERICAN BEE JOURNAL, is unknown. I could hardly keep still when that came at me so sharp as that; I am only a boy in the business, and I thought that I could hardly write anything interesting to the readers, but I will try.

The second year that I had bees I discovered that they were good weather prophets. I could tell near sunset just what kind of weather we would have the next day. Of course I had to watch them very close, so that I could tell. My father often sent me from the harvest field to tell what the weather would be the next day. I never made but one mistake. We often got our hay in dry by working a little late, having the bees to guide us. They will work later, and the way that they leave the hive with a whiz at almost dark some times. Some may say that it is not so, bnt I have proved it for three years. But I am not going to let the name Quimby die out.

W. R. QUIMBY.

Liberty Corner, N. J., Mar. 7, 1893.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

April 5, 6.—Texas State, at Greenville, Tex.
A. H. Jones, Sec., Golden, Tex.

April 6, 7.—Kansas State, at Ottawa, Kans.
L. Wayman, Sec., Chanute, Kans.

Apr. 10, 11.—Utah, at Salt Lake City, Utah.
R. T. Rhees, Sec., View, Utah.

April 18.—Colorado State, at Denver, Colo.
H. Knight Sec., Littleton, Colo.

May 4.—Susquehanna Co., at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y

May 18, 19.—South Texas, at Wharton, Tex.
T. H. Mullin, Sec., Eagle Lake, Tex.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Mrs. J. P. Cookenbach, whose advertisement appears on page 355, will be glad to have you write to her to secure a good place to stay during your visit to the World's Fair the coming summer. The BEE JOURNAL refers its readers and friends, with much pleasure, to Mrs. C., who will do the right thing by all who give her an opportunity to help them.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, March 18th, 1893 :

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½ ; dark, 6@7c. Beeswax—23@25c. J. A. L.

CINCINNATI, OHIO.—There is a fair demand for extracted honey at 6@8c. There is no choice comb honey on our market, and prices are nominal at 14@16c. for best white.
Beeswax—Demand good, at 24@27c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted. 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C.-M. C. C.

ALBANY, N. Y.—Our stock of honey is light and also receipts. Demand keeps up better than usual this season. We are selling white comb honey at 14@16c.; mixed, 12@13c.; dark, 10@11c. Extracted, white, 9@9½c.; mixed, 7½@8c.; dark, 7@7½c. Beeswax, 28@30c. H. R. W.

Local Checks.—Please do not send us checks on local banks. We have to pay from 15 to 25 cents each to get them cashed here, which is quite a useless expense, when you can either send money by registered letter, or get an express or post-office Money Order. We *prefer* the express Money Order, if you can get that; otherwise the post-office Money Order or registered letter.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.
J. A. LAMON, 44 & 46 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & CO., 14 & 16 Hennepin Avenue

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Your Neighbor Bee-Keeper—have you asked *him* or *her* to subscribe for the BEE JOURNAL? Only $1.00 will pay for it for a whole year. And, besides, *you* can have Newman's book on "Bees and Honey" as a premium, for sending us two new subscribers. Don't neglect your neighbor! See page 357.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line**, for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

WANTED—A lady partner as a wife, that is a bee-keeper or that would like to learn the bee and poultry business, with a few thousand dollars to go into the bee and poultry business on a large scale; between the ages of 25 and 50 years. All letters answered. Good reference given. D. BROTHERS,
11A2t Sarahsville, Noble Co., Ohio.

WANTED TO SELL—A good, first-class 4-frame Honey-Extractor. Will take the frames of any size, and will hold 150 pounds under the Basket. It has been used but very little. Will send photographs to all who mean bustness. Price, $20; and I will take in part payment Old Coins, not later than 1858 Dollar or 1853 Half-Dollar; or Quarters and Old Copper Cents or Old Postage Stamps—all to be U. S. money and stamps, and I will allow just double their face value. Let me hear from all who have any Old Coins or Stamps.
THEODORE JAMES,
10 Montgomery St., North Adams, Mass.

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., MARCH 30, 1893. NO. 13.

Mr. F. A. Gemmill's Apiary, located at his home in Stratford, Ont., is shown in a beautiful picture covering a whole page of last *Gleanings*. Bro. Gemmill uses a plan worthy of general adoption, in that he has each hive "named after some prominent bee-keeper in the United States and Canada," instead of numbering them. For instance, on the hives may be seen, in neatly printed letters, these names: Father Langstroth, Huber, Dzierzon, Quinby, Doolittle, A. I. Root, Pringle, Clarke, Jones, Dr. Miller, Alpaugh, etc. The apiary contains 72 colonies, and one especially prized hive (an observatory) was made for Mr. G. by Father Langstroth in 1863; it occupies a prominent position, and "it has contained bees continuously ever since — nearly 30 years." Mr. Gemmill's family are also shown in the very life-like picture, making, all together, a most pleasing sight.

California Bee-Legislation. —Mr. W. A. Pryal was selected by the California State Bee-Keepers' Association to formulate several Bills to be presented to the State Legislature in the interest of bee-keeping.

Three Bills were introduced. One of them was to prohibit the spraying of fruit-trees with poisonous insecticides; the second Bill made it a misdemeanor to maliciously kill honey-bees belonging to another; and the third was for an appropriation of the State funds sufficient to pay for the printing of the proceedings of the California State Bee-Keepers' Convention, and the printing of such other information that will promote the apicultural industry in the Golden State.

It seems that the Bill to prevent spraying fruit-trees while in bloom, with Paris-green, etc., was referred to the Committee on Agriculture, and that committee "knocked it out." The committee contained some fruit-growers, who claimed that it was better to injure the bees, as the fruit interests of the State far exceed that of the honey industry. Had Mr. Pryal been present, he could easily have shown them that the proper time to spray trees is not when they are in bloom; and he also would have tried to prove to them that human lives are more valuable than the few fruits that might be saved by the untimely use of insecticides! It is strange that fruit-growers will ignorantly work against their best friends, the bees!

The Appropriation Bill gave promise of faring better, and Mr. Pryal had assurances that it would in all probability be passed, as the sum asked for ($300) was so modest that no one could very well object to it. At this writing, however, we have not heard the final result.

Bro. Ernest R. Root, the excellent editor of *Gleanings*, is "all 'broke up;'" and the cause of it is the biographical sketch and portrait of himself on page 299 of the BEE JOURNAL. Here is what he said about it in *Gleanings* for March 15th:

> We are all "broke up." We have been sitting before the desk trying to scribble off an editorial, as it was one of the kind that wouldn't "dictate." We've got something to

say, but for the life of us we don't know how to say it, or whether, indeed, we ought to say anything at all. We refer to some kind, very kind things said of us in a biographical sketch, accompanied by a good portrait, in the AMERICAN BEE JOURNAL, of your humble servant. We seriously fear we do not deserve all of it; at all events we tender our awkward "thank you," and in the meantime will try to ward off that peculiar insidious malady that sometimes affects young men—the "big head."

We are just excrutiatingly sorry if we published anything about our Bro. Root that can't be proven true. We hope he will forgive us this time, for our "motives" were certainly in a healthy condition, and we'll promise not to do it again, or at least not until we get another good chance.

We don't believe in saving up all the flowers or kind words until a funeral calls them out. Why not bestow them while they can be appreciated, instead of waiting until our friends have passed away forever? A single word of encouragement given *now*, will be worth whole dictionaries of memorial resolutions. We shall all pass this way but once, and ought to do all the good we can while we have the opportunity.

The Kansas State Bee-Keepers' Association will meet in Ottawa, Kans., on April 6th and 7th, and the following is the programme:

FIRST DAY.

Address by President.
Bee-Keeping in Kansas.
Different Races of Bees.
Economy in Bee-Keeping.
Bees and Horticulture—Their Relations.

SECOND DAY.

The Subject of Hives, by Mr. P. Shaub, of Olathe.
Best Methods of Producing Comb Honey.
Best Methods of Producing Extracted Honey.
Ups and Downs of Bee-Keeping.
Exhibit at the World's Fair, and What Shall We Do About It?
The Different Honey-Plants of the State of Kansas.

Chanute, Kans. L. WAYMAN, *Sec.*

Bee Journal at the Head.—Mr. Hasty began his "Condensed View" in the March *Bee-Keepers' Review* with this question: "How many words of reading matter, by actual count, did the several journals place before their January readers?" He then proceeded to a comparison of the number of words of reading matter in the January issues of eight bee-papers, and here is the result in an interesting table:

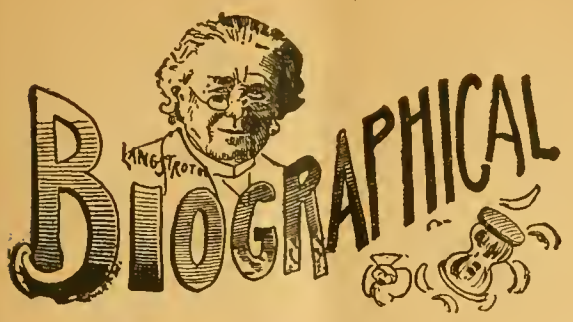
	Bee Matter.	Total Reading.
American Bee Journal	58,675	Same.
Gleanings	42,229	64,685
Canadian Bee Journal	24,254	Same.
Guide	16,566	18.316
Review	15,099	16,836
Apiculturist	9,205	Same.
American Bee-Keeper	7,093	7,770
Progressive Bee-Keeper.	5,959	Same.

Should Mr. Hasty make a comparison of the March numbers of the same papers, we think there would be a still greater showing in favor of the AMERICAN BEE JOURNAL, as we have five issues this month, while in January there were only four. Our nearly 60,000 words contained in four numbers would make about 15,000 words per week, or for the extra issue of this month; then averaging this number of words among the three months of the quarter, would give about 5,000 more words to be added to January, or in all we print nearly 64,000 words of reading matter in one month, *all* devoted to bee-keeping. At this rate, we place before our readers in one year about 750,000 words, and all for $1.00.

Bee-Paralysis is thus written about by Mr. J. A. Golden, of Reinersville, O., in *Gleanings* for March 1st:

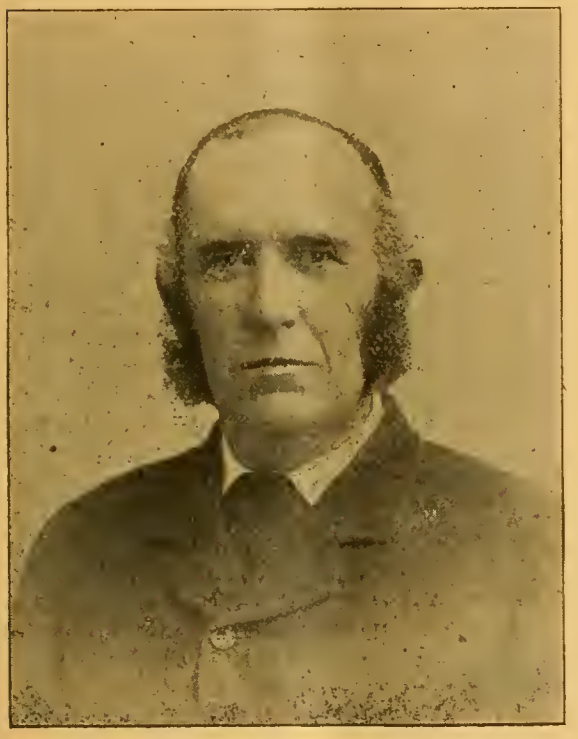
SYMPTOMS OF BEE-PARALYSIS.—In my experience and study of bee-paralysis, I find that the first symptoms of the disease are first noticeable, so far as we have been able to judge, by the guard-bees at the entrances attacking the diseased sisters with a hustling movement as they go and come; and the diseased bee, in this stage, seems to enjoy this kind of treatment; and this indicates, to my mind, that the bee is feverish—a condition that produces an itching sensation, also causing the hair to loosen, and to be easily extracted by the bees in the hustling movement, as above stated. I also find that, when bees reach the second stage, or hairless condition, the guard-bees are more determined to drag them from the hive than at any other time. Further observations teach us that, as soon as the bee begins to bloat, she immediately leaves the hive, and soon expires.

HOW TO CURE.—As soon as the bees begin to fly freely, make a strong brine and thoroughly wet the bottom-boards of these hives once a week, so that, when they dry, they will look frosty; also freely spray the combs and brood with a solution of salt water that you can taste quite a little salty (not strong), once a week, during the season, then report the result; and if you don't forget to apply the remedy, I am sure your report will be in favor of salt.



WILLIAM M'EVOY.

Prof. Thomas Shaw, of the Ontario Agricultural College, has kindly furnished the following sketch of Mr. William McEvoy, the well-known Foul Brood Inspector for the Province of Ontario,



WILLIAM McEVOY.

Canada. Mr. M. is the first Canadian bee-keeper that we have presented in our biographical department since making it a weekly feature of the BEE JOURNAL. His many friends across the line, as well as those on this side, will read with much pleasure this sketch of his life, and the description of his work in the interest of bee-keeping. Prof. Shaw writes thus:

The country is a grand place in which to commence life. If our young people could be made to see this truth in its true light, fewer of them would ever leave it for the more or less precarious existence of the towns and cities. Nearly all of those who make their mark in life, have been cradled in country homes, and the subject of the present sketch is no exception.

William McEvoy was born in the county of Walton, in the Province of Ontario, in the year of 1844. Some years previously his parents had emigrated from Ireland, and while William was still quite young, they took up their abode in Woodburn—a beautiful little country village in the county of Wentworth, where his father fell a victim to the cholera scourge in 1854. Mr. McEvoy, who has lived in Woodburn ever since, was thus thrown at an early age upon his own resources, and, to use his own expression, has virtually had "to paddle his own canoe" ever since. His early education was therefore of the most rudimentary kind. The chasing of butterflies through the happy, livelong summer days, with the writer and other village lads, and the daily summer visits to "Twisses" big raspberry patch, had to give place all too soon to labor for the farmers in the neighborhood.

It was fortunate for Mr. McEvoy, that while yet a lad, he engaged for two or three seasons in succession with Mr. William McWaters, one of the neatest and most successful farmers of that part of Ontario. The example of neatness and painstaking shown by Mr. McWaters, left a life impression upon Mr. McEvoy, who, from that time to the present, has allowed no work to pass through his hands which was not done in the best form. He soon became expert in handling the plow, and other farm tools.

But it was in connection with the bee-industry that Mr. McEvoy was to make the great discovery which was to bring him fame in bee-circles, wherever the Anglo-Saxon tongue is spoken—I refer to his discovery of the cause and cure of "foul brood." For this discovery, and for the success which has attended his efforts in destroying it in the Province, Mr. McEvoy is deserving of the gratitude of his countrymen, and has rendered magnificent service to the bee-keeping industry for all time.

These great results, as is frequently the case, have grown out of very small beginnings. In 1864, Mr. McEvoy bought two old box-hives with the bees in them, from a farmer in the neighbor-

hood. In payment thereof he cut twenty cords of wood—beech and maple—on a piece of land which has since come into the possession of the writer. Soon after, he tried frame hives of various kinds, but with the result in the end that they were finally used for kindling wood.

The indomitable perseverance of Mr. McEvoy is well brought out by the following incident: The use of the extractor had been employed some before he had even come in contact with it. The writer informed Mr. McEvoy of one he had seen in use in Kilbride—a village 30 miles distant. He at once perceived the advantage it would be to him in his business, and promptly set off to see it working. He came back exultant over the knowledge he had gained, after a journey of 60 miles on foot.

The two box-hive colonies have long since multiplied to a number beyond which Mr. McEvoy does not care to go. He has labored to prevent increase rather than to encourage it, as his present duties will only allow him to give personal attention to but a limited number of colonies, of which he has about 90 at the present time.

Mr. McEvoy commenced exhibiting honey and wax at the exhibition in 1868. He was a prominent exhibitor at the leading Fairs of the Province until 1886. During those 18 years he was the greatest success as an exhibitor ever known in this country, or perhaps in any other. He was successful on every occasion except one, viz.: at one of the Provincial exhibitions, where he lost the award through incapable judges, who had been hurriedly chosen in the absence of the regularly appointed judges.

In 1875 the dreaded scourge—foul brood—originated in Mr. McEvoy's own apiary at Woodburn. He at once set to work to discover the cause and cure, and in both was triumphantly successful. This is unquestionably the most valuable discovery of modern times in reference to the apiary. The ablest scientists in the bee-keeping world had been laboring earnestly to get at this root of the great bee-scourge, but in vain, and when Mr. McEvoy first gave his discovery to the world, by those best versed in bee-lore, it was received with cold scorn. Mr. McEvoy was not a writer, nor a speaker, and he had always lived in Woodburn, an obscure country village of about 100 souls. It was incredible that so valuable a discovery could emanate from such a source! But in the wonderful success that has attended Mr. McEvoy's efforts to stamp out foul brood in all Ontario, we find the most fitting answer to the uncharitable criticisms of those selfish days.

In 1881 he gave the essentials of his discovery to *Gleanings in Bee-Culture*, but the article never appeared. In 1884 his methods of dealing with the plague appeared in the January number of the Canadian *Live Stock and Farm Journal*, then under the editorial management of the writer. This was the first time that Mr. McEvoy's opinions on this question appeared in print. It was announced beforehand that the February number of the *Bee-Keepers' Review*, of 1890, would contain only articles on "Foul Brood." Mr. McEvoy, with great pains and labor, forwarded a summary of his methods, but on the principle, I suppose, that no good thing could come out of Woodburn, the article was suppressed.

In 1890 he was appointed Foul Brood Inspector for Ontario, and has held the appointment since that time. The wisdom shown in the appointment has been more than justified in the grand results that have been realized. The fell disease, though not exterminated, has been smitten, hip and thigh, wherever Mr. McEvoy has gone. He justly feels proud of the fact, that in the wholesale cures that have been effected under his supervision, the work has been done in the hives in which the diseased colonies were found, and never in his 17 years' experience with the scourge has he had to scald, boil or otherwise disinfect a hive from which foul brood had been dislodged.

At the bee-keepers' convention held in London, Ont., in January, 1892, Mr. McEvoy drew attention to the fact that bees were being destroyed, wholesale, by the needless spraying of fruit-trees with poisonous liquids when in bloom. He succeeded in getting a committee appointed to lay the matter before the Ontario Legislature. The result was, that an Act was passed the same year, prohibiting the senseless and exceedingly injurious practice of spraying trees with poisonous liquids when in bloom.

It is not surprising, therefore, that Mr. McEvoy should be regarded on all hands as standing in the front rank amongst living authorities on all practical questions relating to the bee-keeping industry. The great discoveries which he has made is another instance of the success which is sure to follow patient investigation, combined with untiring industry in any line. THOMAS SHAW.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Greatly Encouraged with Prospects.

We feel greatly encouraged with the present prospects for a spring crop, as our bees have come through without any losses whatever, and are strong colonies. As we are having some fine weather, queen-rearing is in full blast.

We (I, for one) would be glad to meet some of the old veteran bee-keepers of other States than our own, at our meeting at Mrs. Atchley's, in Greenville, on April 5th and 6th. We expect to have an interesting time. W. H. WHITE.

Deport, Tex., March 9, 1893.

Bee-Diarrhea and Its Treatment.

MRS. ATCHLEY:—Here I come, in trouble again. I examined my bees a few days ago, and found that one colony, where I put in a fine queen last fall, had gone down to almost nothing. It was one of my strongest last fall, and I thought it was so yet, but I find the bees dying off rapidly, and their combs all covered with a yellow, bloody-looking stuff, and they are dwindled down to a mere handful. On examining further, I find another colony affected too. What is the matter? What must I do with them? F. B. EFIRD.

Winston, N. C., March 1, 1893.

Friend Efird, you have a clear case of bee-diarrhea, or spring dwindling, and I would advise you to clean up the sick-rooms, give them a new, clean hive, and feed them; uncap what honey they have so as to stimulate them to activity as soon as possible, and if they are reduced so they are not strong enough to cover a common-sized brood-nest, I would give them some help from other hives in the way of frames of hatching brood.

I do not mean that the disease is catching at all, or that the germs will spread to other hives, but look at the common-sense point, and clean up the sick-room, and the bees will do better. I have tried salt, and all the remedies that I have seen in print, all to no purpose with me. The bees usually get all right when settled warm weather comes, and they get new honey, but I find it helps wonderfully to stimulate them to perfect activity as soon as possible.

Good Prospects—House Apiaries, Etc.

Never having seen anything from this part of the world in "Sunny Southland," I will venture a few notes.

Two years of "blasted hopes" are gone by, and now everything looks like a splendid year—plenty of rain all the month, bees robbing pollen and honey from willow, early peach and almond blossoms. The sages are budding finely, and now we see the "silver lining of the cloud" appearing that Dr. Miller told us of in his June "straw-patch" of 1892, and which we failed to see, although we searched diligently for it. That puts me in mind that I want to thank Dr. Miller for his article on page 114 of the BEE JOURNAL for this year. When I read it, I said: "He shall stand before kings; he shall not stand knee-deep in sugar-honey." We of this Southern country have had very little to say on the subject of honey adulteration, but I think we are all of one mind in regard to the matter, and all wish to stand up and be counted with the true men who are fighting against the debasing of our chosen pursuit.

Mr. B. Taylor, of Minnesota, in the December *Review*, struck the key-note of my hobby—the house apiary. Most authorities claim that bees will not do well with the hives close together, but my bees do, and have done well for years with only one inch between the hives, in a house apiary. Away back in Illinois, on the old homestead, one of my earliest recollections are of bees kept in a house apiary, and no matter how hard the winter, we always had honey.

In this climate it is not the winter, but the summer that troubles us, and after losing a good many colonies by combs melting down, and seeing a good deal of honey run down the hills, as an experiment in the spring of 1891 I placed 12 colonies in a house apiary; in the fall they had increased to 68 good, strong colonies, and I sold from the same a little over a ton of nice comb honey, and wintered the 68 colonies in the house apiary without the loss of a

colony; and in 1891 honey was reported in California as only one-third of a crop; in 1892 the honey crop was a complete failure, but the bees in the house apiary gave me some surplus, and went into winter strong, with plenty of stores, while the colonies outside did not do anything on account of the difference in temperature between the day and night.

The bees that were kept warm in the house apiary could, and did, work wax in the sections all night, while those outside could only keep the brood warm, and in the middle of the day the outside bees were working to keep the brood cool, and their combs from melting down. Those protected from the heat were carrying in honey all day. These are a few of the reasons why the house apiary is my hobby.

There are a number of beginners in this neighborhood, and we are all much pleased with "Our School in Bee-Keeping," and all ready, waiting and willing for the next lesson.

Please tell the editor of the BEE JOURNAL that we are much interested in the temperature reports, and would vote to have them continued, as in this part of the country we measure heat by the foot, and rain by the wheelbarrowful, because long before the summer is over we run out of degrees, and the way we measure rain by the wheelbarrow is thus: We place a large iron barrow in a secluded, convenient place, and measure the amount of water it holds after a rain. We have had another splendid rain for the last four days—it has poured down nearly all the time. The bees have done well so far.

JOHN COLLINS.

Elsinore, Calif., March 10, 1893.

Reads this Department First.

As soon as I get my copy of the BEE JOURNAL, I look for and read this department the first thing. I hope to see our friends in the South "spread themselves," and make the "Sunny Southland" department useful and instructive. R. W. THOMPSON.

Estabutchie, Miss.

The Bee-Meeting at Greenville, Tex., on April 5th and 6th—are you going to be there? It will be an enjoyable time, and you ought to come if you possibly can do so.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Sowing Alsike Clover Seed.

1. Will you please tell me through the BEE JOURNAL what time Alsike clover should be sown? 2. Would it do to sow with wheat or rye, in the spring?

THOMAS FOREACRE.

Marshallton, Del.

ANSWER.—1. The sowing should be done as early as possible, so that the seed may catch some of the spring rains.

2. Yes; or it may be sown with oats, provided the ground can be gotten into the proper condition early enough.

California Bee-Keeping, Etc.

1. Have there ever been bees shipped by the pound (in bulk) across the continent, say from California to New York, or *vice versa?*

2. By doing so, what would be the possible cost per pound?

3. Is there any honey gathered in the the sugar-pine belt?

4. How would a location be above the pine timber, where brush is abundant, up on high mountains? Could bees be expected to do well in such a latitude?

Millville, Calif. JOHN C. KROPP.

Mr. W. A. Pryal, of North Temescal, Calif., to whom we referred the above questions, kindly replies as follows:

1. I have never heard of bees being shipped to or from this State in pound packages; yet I should think they can be. It is not advisable to do so, for many reasons. In the first place, there are sufficient bees either in this State, and in the States beyond the Rockies, to supply the demands of bee-keepers in either division. Should Eastern apiarists want a lot of extra bees early in the season, it would be wise for them to send to some of the Southern States for them; if an apiarist in the northern part of this State desires a quantity of bees early in the season to build up a nucleus, then he had better send to

some bee-keeper in Southern California. When properly packed, they will travel with safety either way. I would not advise any one to get bees by the pound from the East. The same advice holds as to shipping in the opposite direction.

2. The cost of the bees would be the same as Eastern prices; the expressage would necessarily be high—too high, in fact, to warrant any one in getting them in that way. I don't think they could be brought in pound lots safely from the East through the mails.

3. It depends just where in the sugar-pine belt the bees are located, whether they will find sufficient honey to make it profitable to keep them as a business. Mr. John Muir, the celebrated scientist, is authority for the statement that all the region around Mt. Shasta is a grand bee-garden. There are places below the snow-line where flowers that are rich in honey, bloom without fail every year; these spots deserve to be tried as locations for apiaries. I have never heard of any one starting an apiary in this region. Any of the wild and grand gorges through the mountains in the Shasta country, where there is a plentiful growth of honey-secreting plants, will be found to be a bee paradise. In fact, it is my firm belief that inside of ten years the major portion of our honey will come from the great mountain ranges of the State, instead of from the lower portion of the State, as at present.

The mountain honey of this State as far as I can learn, is denser than that obtained elsewhere in California. In nearly all cases it is not as clear as the beautiful sage honey of the lower counties; yet the difference is not so great as to make one much cheaper than the other.

4. The altitude will not make any great difference to the bees. They cannot be kept in just the same manner as they would be in the warm valleys. If near the snow-line, the apiarist would be obliged to practice those methods in vogue in cold climates, to-wit: wintering, etc. There is such a thing, even in the glorious climate of California, of chasing the snow up the mountain side with one's bees, as is done in some of the mountainous countries of Europe. This may be yet done in many of the mountain districts of this State; and when it is so practiced, such a thing as a dry year among California bee-keepers will be a thing of the past.

W. A. PRYAL.

Read our great offer on page 389.

Separators and the Number of Unfinished Combs.

Query 864.—A writer in the BEE JOURNAL has made the statement that the use of separators in a super lessens the number of unfinished combs. I would like the opinions of different bee-keepers on this subject, and would ask all that say that separators do cause the bees to finish what they commence, rather than commence more than they finish, to tell WHY it is true, according to their views. What is your opinion?—Ind.

I don't produce comb honey, so I have no experience.—A. B. MASON.

I see no reason why it should be true. I have not noticed it in my work.—A. J. COOK.

I produce very little comb honey, but I always use separators to keep each comb true.—E. FRANCE.

I prefer separators, but I don't know that the statement in the above query is correct.—H. D. CUTTING.

I have always produced nice, straight section honey without separators, so my views would not be worth anything.—MRS. JENNIE ATCHLEY.

I don't know. If there is any such difference, it might be because bees are more averse to commence in a place if it is partitioned off.—C. C. MILLER.

My opinion is, bees are a little slower about starting, where there are separators; and, this being the case, they are more apt to finish what they do start.—JAS. A. STONE.

Separators, with me, are a necessity. Neat, finished combs are impossible, practically, without their use. The bees will build straight across the super without them.—WILL M. BARNUM.

I have had but one season's experience without separators, and do not want another, either. Some combs are made too thick, and of course such are not finished as quickly.—P. H. ELWOOD.

With the open-side sections it is true that not so many unfinished combs result. It is because the bees follow the separators and complete only one or two rows of sections at a time, except when the flow of nectar is extra good. when

all the sections are worked at once. I long ago decided that I would use sections without separators rather than use straight-sided sections with separators, which diminish the surplus fully one-third.—G. L. TINKER.

In my experience separators have no such influence. In fact, close observation has led me to believe that the very opposite is true. Bees finish sections better without separators for me, and therefore I never use them.—EMERSON T. ABBOTT.

You are sure to have a great many unfinished sections, any way, but the separator has a tendency to shorten the depth of the cells—that is, prevent bulging—and of course the honey is more quickly ripened and ready to cap.—MRS. J. N. HEATER.

I have not observed that the above is true. If more supers are put on before the first is finished, and nectar is not abundant long enough to fill them all, I think any one will find unfinished sections, whether he uses separators or not. —EUGENE SECOR.

My experience in this matter has not been large, but I have not found that the use of separators makes any particular difference. I do find that handsomer combs are produced by using separators, than are found where they are not used.—J. E. POND.

It is bee-nature to deposit their surplus as near as possible to the brood. Now, the more obstructions you place in the way, the more reluctant they are to go into the supers. Hence, I don't use separators, but foundation *well* fastened to the sections.—J. P. H. BROWN.

I think that separators tend to make the bees build their combs closer to the center of the super, for the reason that the outer divisions are somewhat cut off from the others. A few poor seasons, such as we have had, are excellent for observing this.—J. H. LARRABEE.

If separators are used as wide as the sections, and especially if of wood, they greatly lessen the number of unfinished sections. If ⅛ inch narrower at the top and bottom, they do not do so well. In the first case, each section forms a little separate box, and the bees usually finish all that they start, or nearly so — C. H. DIBBERN.

Writers some times give their own experience and conclusions based on very narrow premises. The only way for "Ind." to settle these matters is to try the experiment for himself. In my own experience separators do not lessen the number of unfinished combs. I have always been able to find the cause when I have been caught with an excess of unfinished sections. The most fruitful source of an extravagant number of unfinished sections is a rapid flow of nectar, with a premature "shut down." A hot wave or excessive rain may bring on the relapse.—G. W. DEMAREE.

We have never noticed this, but the cause of it is probably in the fact that the combs are thus more remote from the brood than without separators, and for this reason they probably hesitate in building additional combs. We believe, for the same reason that less honey is produced with separators than without them.—DADANT & SON.

I can't see why separators should cause less unfinished sections than where none are used, unless they are a hindrance to the bees making an early start in the super. If such is the fact, they probably prefer to store all the honey they have room for in sections already started, than pass the barriers of separators to get more room.—S. I. FREEBORN.

With wide frames and tin separators, with me, there are perhaps not more than half as many unfinished sections as without separators. The reason is, the separators act as a sort of fence so the bees do not spread out sidewise before they actually need room for their honey —without separators they move with equal facility in all directions.—R. L. TAYLOR.

Bees seal their combs as soon as the ends of the cells come within ¼ to 3/16 of an inch of any surface, be that surface another comb, the side of the hive, or a separator; hence sections are often filled, sealed and finished between separators before the bees commence work on other combs, while were it not for the separators not a cell would be sealed in the whole surplus arrangement. All who have used "bait sections" in a poor season know this to be a fact.—G. M. DOOLITTLE.

This is often true. To explain when and why this is the case, would require more space than this Department can allow. As a rule, we may say that when for any reason the bees are a little shy about working in the supers, they are a little more inclined to finish the combs they are working on, instead of starting new ones, if separators are used. This result would be greatly varied by a variety of circumstances, such as season, temperature, kind of bees, style of super, character of honey-flow, etc.— JAMES A. GREEN.

Report of the Wisconsin State Bee-Convention.

Written for the American Bee Journal

BY H. LATHROP.

The ninth annual meeting of the Wisconsin State Bee-Keepers' Association was opened at 7 p.m. on Feb. 8, 1893, at Madison. President C. A. Hatch being absent on farm institute work, the chair was occupied by Vice-President J. J. Ochsner.

ADULTERATION OF HONEY, ETC.

The minutes of the previous meeting having been read and approved, Frank Wilcox, of Mauston, read an essay on "Adulteration." He gave it as his opinion that it would be impossible to entirely prevent it; he did not think bee-keepers as a class practiced it, but that at least 95 per cent. of honey adulteration was done by dealers in the large cities.

The convention condemned in very positive terms the theory that honey could be produced by feeding sugar to bees. The opinion was very unanimous that any such teaching was very detrimental to the interests of bee-keepers.

WORLD'S FAIR APIARIAN EXHIBIT.

The question of the Columbian exhibition was taken up, and a committee appointed to make such arrangement as should be thought best.

As a result of the work of this committee, Mr. Frank Wilcox, of Mauston, Wis., was appointed by the Association to have charge of collecting and placing the honey exhibit of this State. All bee-keepers in this State having comb or extracted honey that could be used for exhibition purposes, will please write to him at once. He has authority to purchase the honey, and we hope by this means to make a fair exhibit, notwithstanding the fact that the past season was a very poor one for honey-production in this State.

Jacob Hoffman, of Monroe, then read an essay on "Bee-Keeping for Profit."

FOUL BROOD.

Mr. Danniher, of Madison, spoke on the subject of "Foul Brood." His method of treatment is as follows:

Shake the bees out of the affected hive into a clean box, and confine them in a cellar for 24 hours; at the end of which time burn up what comb they have made, put them into another clean box, and feed for 24 hours on sugar syrup; then hive them in a clean hive on clean combs or foundation. Destroy all old combs, brood, etc., and destroy the old hive, or renovate by boiling before using it again for bees. The honey may be boiled and skimmed, and used in making vinegar. The greatest danger in the spread of foul brood was said to be through the honey.

Mr. Winter, of Madison, spoke on the subject of legislation against foul brood, and read a copy of a law that had been passed in Ontario, Canada. Mr. Wilcox stated that we had tried and failed to get legislation, and it was a question whether it would be advisable at present. There seems to be but little of the disease in this State.

BEE-PARALYSIS—FOOD FOR BEES.

Dr. J. W. Vance, of Madison, spoke on "Bee-Paralysis." It seemed to be a disease as yet little understood. Salt water sprinkled on the combs was said to be a cure.

Mr. Frank Minnich presented an essay on "Food for Bees." The best known food was full combs of honey saved out, which could be hung next to the cluster in the spring, or when feeding is necessary.

BEE-FEEDERS—QUESTION-BOX.

The question of "Feeders" was taken up. A good feeder was said to be one that would not waste the food, kill bees, or induce robbing; would not require to remove the quilt or honey-board in order to place on the hive; must be cheap and durable, and easy of manipulation. Several kinds were spoken of which meet the above requirements, some of which have been described in the BEE JOURNAL.

The following were elected as officers for the ensuing year:

President—C. A. Hatch, of Ithaca.

1st Vice-President—Frank Wilcox, of Mauston.

2nd Vice-President—Jacob Hoffman, of Monroe.

Recording Secretary—H. Lathrop, Browntown.

Corresponding Secretary and Treasurer—Dr. J. W. Vance, of Madison.

The question of prevention of increase was discussed, followed by the Question-Box, which was a very profitable feature. The attendance was small, but the interest good, and the discussions much enjoyed by all. H. LATHROP, *Sec.*

Report of the Southwestern Wisconsin Convention.

Written for the American Bee Journal

BY A. A. ARMS.

The seventh convention of the Southwestern Wisconsin Bee-Keepers' Association was held at Boscobel, Wis., on Jan. 11 and 12, 1893. The convention was called to order by President Edwin Pike. The Secretary being absent, Mr. M. M. Rice was chosen Secretary *pro tem.* Owing to the bad weather, the attendance was not large, but was very enthusiastic, and very many important questions in apiculture were asked, and intelligently debated.

The convention then adjourned until 9 a.m., Jan. 12th.

SECOND DAY—MORNING SESSION.

The convention was called to order at 9 a.m., by the President.

The first question asked was, "Have the last few years of poor seasons been a detriment to bee-culture?" It was discussed, and decided that they had not.

An appropriate resolution referring to the death of the late Secretary of the association, Benjamin E. Rice, who died Aug. 8, 1892, was passed, and ordered to be recorded in the minutes of the meeting.

A resolution on honey adulteration was laid on the table.

The place of the next meeting was decided in favor of Wauzeka; and the time selected for holding the next semi-annual meeting was April 20, 1893. The convention then adjourned until 1 p.m., when it was again called to order by the President.

The election of officers for the ensuing year was held, and resulted as follows:

President, N. E. France, of Platteville; Vice-President, J. W. Van Allen; Secretary, A. A. Arms; Assistant Secretary, M. M. Rice; and Treasurer, H. Evans.

The Secretary and Treasurer read their reports, which were approved.

The question, "What is the proper management in such seasons as 1892?" was discussed, and also various other topics.

A resolution was passed, tendering the thanks of the convention to Messrs. M. A. Gill and E. Pike for the interest they had taken in the convention.

The membership of the Association numbers 66, and bids fair to be considerably increased in the near future.

The convention then adjourned.

A. A. ARMS, *Sec.*

Convention Notices.

UTAH.—The semi-annual meeting of the Utah Bee-Keepers' Association will be held in Salt Lake City, Utah, on April 10, 11, 1893. All interested are cordially invited.

View, Utah. R. T. Rhees, Sec.

PENNSYLVANIA.—The Susquehanna Co. Bee-Keepers' Association will hold their 12th semi-annual meeting at the Tarbell House in Montrose, Pa., on Thursday, May 4, 1893. All are invited. H. M. Seeley, Sec.

Harford, Pa.

NEW YORK.—The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.

H. C. FARNUM, Pres., Transit Bridge, N. Y.

COLORADO.—The adjourned meeting of the Colorado State Bee-Keepers' Association will be held in the Charles Block, corner 15th and Curtis Streets, Denver, Colo., on April 18, 1893. Business important to all honey-producers will come before the meeting.

Littleton, Colo. H. KNIGHT, Sec.

KANSAS.—The Kansas State Bee-Keepers' Association will hold their annual convention at Ottawa, Kansas, on April 6 and 7, 1893. All bee-keepers are cordially invited to attend this convention, and make it one of the most interesting ever known. There will be a good programme. Bring something to exhibit. L. WAYMAN, Sec.

Chanute, Kans.

TEXAS.—The Texas State Bee-Keepers' Association will hold its 15th annual convention in Greenville, one mile north of the Court House, at the apiary of Mrs. Jennie Atchley, on Wednesday and Thursday, April the 5th and 6th, 1893. One of the biggest bee-meetings ever held in the South is anticipated. Everybody is invited. No hotel bills to pay. Come one, come all, and let us have a lovely meeting, and an enjoyable time. All bee-keepers invited to bring along something to exhibit. A. H. JONES, Sec.

Golden, Texas.

The Washington Convention Report is now in pamphlet form, and we shall be pleased to mail a copy to any one desiring it, for 25 cents. It contains 32 pages. As only a very limited number were printed, you should order promptly if you want a copy.

Self-Hivers and the Queen-and-Drone Trap.

Written for the American Bee Journal
BY HENRY ALLEY.

Self-hivers seem to be receiving a share of notice by the various bee-papers. This, of course, is all right, though there are claims made for some of the hivers that the queen-trap has always possessed. We are told that some of the hivers now used under the colony that casts the swarm, are so used merely to detain a part of the swarm, while the larger part of the bees ascend to the brood above, and continue work in the supers they deserted when they swarmed. This seems to be a new use for an automatic hiver. Well, now, if this is the design of a self-hiving arrangement, I think bee-keepers will go to considerable trouble and expense to accomplish a thing that can be done equally as well by using a plain, simple drone-trap!

I venture to say that it is not half as much work (and no bother at all), to place a queen-trap on a hive, as it is to adjust some of the hivers. When once there, the trap is in plain sight, and one can see at a glance whether a swarm of bees has issued in the absence of the bee-keeper. Now this cannot be done where a self-hiving arrangement is used in a brood-chamber, and placed under the hive the colony is in that a swarm issues from.

I will explain briefly how the trap works: When a swarm issues, the queen will surely be found in the trap. That she is there may be known by the presence of a considerable number of the worker-bees. If there is no queen in the trap, there will be no cluster of bees. When a queen is in the trap, there will be towards night, at least, about half a pint of bees in one corner of the trap. During the day the trap will be pretty well filled with bees if there is a queen in it.

The bees, as is well understood, when they swarm and miss their queen, return to the hive they issued from, and return to work the same as though nothing unusual had happened. Now if not desirable to increase the number of colonies in the apiary, this operation is all right. But to hive the swarm at the time it issues, of course it is necessary that some one should be in the apiary to change the hives. That is, the hive the bees came from should be removed to one side, a new one put in its place, the trap taken from the home hive and placed at the entrance of the new hive, when the swarm will quickly hive itself.

Now if comb honey and not increase is the object, the hives should not be changed, nor the trap meddled with until the third day after the swarm issued. At that time the queen that accompanied the swarm (or any other queen will do) should be introduced to the home colony. If done as here stated, there will be no need of opening the hive to destroy the queen-cells, as the queen will attend to that in the course of a few hours after she is introduced. There will be no more swarms from that hive during the season.

Well, now suppose it is not desirable to give the queen back to the old colony, and it is not convenient to procure another for two or three weeks; the proper thing to do under the circumstances, is to let the trap remain with the queen in it until it is known that a second swarm will not issue. In the mean time, the young queens will hatch, and several will be found dead in the trap. That is a sure indication that no more swarms will issue, and the trap can be removed for the season.

If the old queen is a valuable one, and the apiarist disires to preserve the cells that were built by the bees before the swarm issued, let the trap remain with the queen in it until the seventh day, and then cut out all the cells but one, and let the remaining one be the largest and finest of the lot.

Some time last summer I read an article in the BEE JOURNAL by a writer who was describing some sort of a swarm-catcher. He said among other things, that he did not like the queen-trap, as several swarms would issue at one time, and all alight in the same place, and that made a bad mess of it. Well, what has the trap to do with preventing several swarms issuing at the same time? Now suppose there are four or more swarms in the air at one time where there are no traps in the apiary—the swarms surely will all settle in the

same place, bees, queens and all. Now, isn't that a pretty mess? What can be done about it? Why, soak the bees with water, shake them into a hive-cap, or upon a blanket, and poke them over to find the queens. How does that sort of a job strike the beginner?

Well, now suppose there are traps on all the hives that the swarms issued from? The queens will be found in the traps, and ninety times out of a hundred, the bees, as soon as they miss their queens, will return to their respective hives. If they do not, it is an easy matter to divide them up, and as the queens are safe, the worst part of the job was already done in the beginning.

The trap was designed to save the apiarist the trouble of going into trees for his bees when a swarm issues. It also prevents any swarms absconding in the absence of the bee-keeper, or at any other time. It also catches and destroys all useless drones.

Wenham, Mass.

The Season of 1892—Wintering—Absorbents, Etc.

Written for the American Bee Journal

BY J. P. SMITH.

The season of 1892 was a poor one for bees in this vicinity. My bees came out well in the spring, having wintered without loss. They built up well in early spring, but the summer was such as to give me only about one-third of a crop of honey. The fall was better; golden-rod yielded fairly, so that bees generally collected a supply for winter.

WINTERING BEES.

As usual, I reduced the number of my colonies, by uniting, from 42 to 25. The advantage of this method is two-fold—it enables me to save my best queens, and also gives me good, full hives of bees for winter, which I believe is a great advantage in this latitude. They may consume a little more honey, but with me they generally come out strong in bees, the warmth of which enables them to breed early, and hence build up early in the spring. I winter them on the summer stands, with an outer case over the hive, packed with some dry material, such as planer shavings or chaff.

ABSORBENTS—SEALED COVERS.

On part of my colonies I put "Hill's device," covered with a cushion of some dry, porous substance from 7 to 10 inches in thickness. On the others I put a pine board ¾ of an inch thick, fitted closely, leaving a bee-space between it and the frames, and covering the board with dry material 4 to 5 inches thick.

I have tried these two methods several seasons, have observed closely, and have discovered no difference in their wintering. In fact, I conceive there is but little difference, philosophically, between the two methods. I deem one covering about as porous as the other, for science tells us the pine is porous. I would not believe in having the sealed covers made of a compact metallic substance, thus preventing the escape of the moisture. The only mistake I found in opening my hives last spring, was in the upper part of the cushion. All the rest was dry and warm, and the combs were as nice and dry as they were last fall. By removing the covers one fair day, all this moisture disappears.

ADULTERATION OF HONEY.

Yes, push the opposition to it. Get the law against it, and have it so framed as to include the new-fangled, unauthorized name of "sugar-honey."

Get the law, and then enforce it. Let the same push be made that has been made against oleomargarine, and all adulterated honey will "down." Oblige every person that offers it for sale, to label it, setting forth just what it is. Have this done, then I predict it will have to beg for customers, and beg in vain, and *honest* bee-keepers will have no harm from it. When Rambler's whirlwind strikes them, they may realize that the Prophet Hosea had them in mind when he prophesied as in Chapter VIII, verse 7.

I want to commend the AMERICAN BEE JOURNAL for the straight-forward, high-minded course it has always taken in regard to adulteration.

Sunapee, N. H.

The Will of the Queen and the Sex of the Egg.

Written for the American Bee Journal

BY DR. C. C. MILLER.

That proof of which I spoke, as to queens laying drone-eggs at will, is promptly forthcoming. Here it is from D. Lindbeck, of Bishop Hill, Ills., whose letter is so interesting that I give it entire:

FRIEND MILLER:—I read your article on page 244, where you say: "I can think of one argument that would be more convincing than any yet brought forth in favor of the 'Will' theory. It would be to find the queen laying in drone-cells that were merely begun." etc. One such case came under my observation last season. The bees were just in the act of building drone-comb, and the queen laid eggs just as fast as they had cells fairly started (about ⅛ inch deep, and I think some less). You can put this down as being a *faet*. Will or no will, I had that comb full of drones, and they hatched out drones, too. I saw it all. I did not have many colonies, and you may know I peeped in quite often and saw what they were doing.

But there is one thing that beats me, and I cannot make out how it came about. I got two queens from Mr. Alley, introduced them safely, and in about eight or ten days both colonies swarmed. I was near at hand, and I had a strip of queen-excluding zinc in front of both. I saw the queens trying hard to get out. I watched quite awhile until nearly or quite all the bees were out and in the air. I took the zinc strip off, and the queens were fast in the zinc. I caught and caged them, and hung the cage outside of a new hive with full sheets of foundation; the bees came back in about half an hour, and I let the queens go in. I saw them go in. I put the zinc strips back (Tinker zinc, 17/100 perforations), put on the supers, and thought all was O. K.

I did not examine those colonies for 3 or 4 weeks, and when I did, I found in one a very dark queen (Alley's were both very yellow) and brood, all in working order. In the other I found no brood, and very few bees. I looked long and well, and finally found a small queen not much, if any, larger than a worker-bee, and *black*.

Now the questions are, where did Alley's queens go? and where did the bees get their black queens, especially the last named? They never had any brood, I am sure—only a little honey.

If I follow directions for introducing sent with queens by mail, and lose the queen worth $2.00, who is to blame, I being a novice? D. LINDBECK.

The case of those two queens is certainly an unusual one. To answer your last question first, queen dealers sometimes guarantee safe introduction if directions are followed, but you hardly refer to the present case, for you say they were "introduced safely," and they certainly must have been, as they issued with the swarms 8 or 10 days later.

It is not the safest thing to venture a guess as to the case without knowing more about it, but one way which might possibly happen, was that a young queen had hatched out and the old queen had been held in up to the time the young queen was ready to leave. Again, a small swarm with a black queen may have united with the swarm while it was out, or entered the hive shortly afterward.

If I were sure you were not bigger than I, I would hint that you *might* be mistaken as to that small black queen being a queen at all; for if she had been there three or four weeks, it seems she ought to have had some brood. Perhaps some one else will give a better guess.

Marengo, Ills.

A Plan for Cellar Spring Feeding of Bees.

Written for the American Bee Journal

BY F. H. WALKER.

It is evident that some of the most valuable information in the BEE JOURNAL is a repetition of methods of some simple device used by some of our less prominent bee-keepers, and I have been greatly helped by some of the suggestions and ways of contributors to the BEE JOURNAL. So I hope to give a little "boost" to some of them in my way of spring cellar feeding of bees, which seems to do away with spring robbing after putting them out for the summer, and also saves some of those that are likely to breed too much and become short of honey during the winter.

This should be done just before the warm weather that comes in the spring before we wish to put the bees out, because in feeding many colonies it is apt to raise the temperature too high, unless they are aired out at night. I usually look, or lift them all over, beginning at one side, and pack them up, and when I find a light one, I put it on top, ready for their food, as I do not like to disturb the combs while in the cellar. So when I have looked them all over, I have the light ones all on top, or by themselves, ready to nurse.

I use the Mason glass fruit jars (2 quart), and after filling them with a

sugar syrup thin enough to prevent granulating, I cut up pieces of cheese-cloth about five inches square, and tie a piece over the top of the jar, or hold it in place, and screw the zinc rim about one-half on. This makes a little space between the cheese-cloth and the blanket over the bees. Then cut a hole through the blanket just over the cluster, about an inch square, and set the glass jar over the hole, bottom side up, and they will cluster up in the little space, and nurse the syrup through the cheese-cloth as quiet and undisturbed as though nothing had happened, after they have first found their new lunch, and become used to it.

The rubber and glass top can be laid aside, and later wash up the cans and use them for putting up extracted honey. The smallest colonies can feed in this way, when the other feeders work only on large colonies, unless they are very warm (too warm for the rest). I also use this way of feeding in the yard, both spring and late fall, too, sometimes. It brings the honey nearer to the bees than any other way directly over the cluster.

Manchester, Vt.

How Far Do Bees Go for Honey and Do Well?

Written for the American Bee Journal

BY F. X. ARNOLD.

How far do bees go in search of honey and still do good work? is a question that seems to have received some attention of late, and bee-keepers differ widely in their opinions, some limiting the distance to 1½ or 2 miles, while others go to the opposite extreme, and say they will go as far as 12 miles. However, when honey is plentiful, the former figures may be nearly right, and but very few bees work outside of that distance; while, if honey was scarce in their immediate vicinity, they would probably go a far greater distance than that, although I never saw bees over 3½ or 4 miles from their homes.

Well, last summer was the first time I had a chance to test the matter a little, as last year was the poorest of the several poor seasons we have had in succession, and the bees were in a starving condition all summer, until the fall blossoms yielded their precious sweets, which gave the bees more than they could do for about five weeks.

The main part of our fall crop of honey is from smart-weed; now this smart-weed, or whatever they call it, has its peculiar ways of blooming, and also a decided difference in the amount of honey it produces; that which grows on hilly regions has usually small bloom, and sometimes yields sparingly, while that in the bottoms blooms from one to two weeks earlier, and has larger and more perfect blossoms, and gives a good supply of nectar before a bee is seen working on the same plant on the hills.

As my apiary is located about two miles from the bottoms, the bees began working very briskly for several days, and I noticed not a single bee working on the smart-weed near the apiary; so I immediately went to the bottoms, and found the smart-weed in full bloom, and just literally alive with bees. This satisfied me that my bees were working at least from 2 to 2½ miles from home, and doing good work at that.

The next thing I wanted to know was, how long it would take a bee to get a load of honey at that distance, as no other honey was being gathered at that time, and the working bees could be seen in the morning going in a steady stream towards the bottoms—like a swarm that is hurrying off to get to better quarters than they had at home. So I sprinkled flour on a good many of the bees that emerged from a certain colony, and waited for their return.

The first bee returned in 13 minutes, and was well loaded with pollen from corn-tassels, which it evidently gathered in some of the neighboring corn-fields. The second returned in 32 minutes, and had a load of honey, and a little smart-weed pollen. Several entered at 34 minutes, and a few at 37, and all the way up to 40 minutes. All those that returned after 30 minutes were well loaded with honey, and some carried small pellets of smart-weed pollen. The average length of time it took them to go to the bottoms, load themselves and return, was about 36 minutes.

To tell just how much more honey they would have gathered if they had the flora near by, is hard to tell—undoubtedly a good deal more honey; but bees can do good work at the above-named distance.

Deer Plain, Ills.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

A Horse-Blanket that Angered the Bees.

Written for the American Bee Journal

BY CHAUNCEY REYNOLDS.

I wish to relate an incident which happened to me last September.

On returning from a camp-meeting, I drove up near the apiary and took a wet horse-blanket, that had been used to wrap around ice, and hung it on the fence to dry, about 12 feet from a hive of pure Italian bees—not in front, mind you, but off to one side of their line of flight. The bees were working strong on heart's-ease at the time, and, in fact, the only time they did work during the year.

In a couple of minutes I happened to notice that there were a lot of bees around the blanket, but I thought nothing of it, as I thought perhaps there might have been some sugar spilled on it, and they were after it. In a very short time I again noticed the blanket, and then there were a large amount of bees on it, and around it in the air for perhaps 20 feet or more high, and they were pouring out of all the hives and making straight for the blanket. By that time it was a perfect uproar—in fact, I thought for a moment that every colony was swarming.

Still I continued to think there was sugar on the blanket, and started to go and get it for fear it might start robbing. When I got near it, I saw it was covered with bees with their stings fast, and thousands more trying to get a chance to get a sting in, too. In fact, I could hardly see the blanket for the bees that were fast on it. I made three or four grabs for it, but was driven away each time severely stung; and as I am a man who was an involuntary visitor at Andersonville during '64, and am naturally rheumatically inclined as the result of my visit, I do not go far out of my way to avoid stings. I hastened to don the "Globe" veil and buckskin gloves before I could get the blanket. I then ran with it some distance before I threw it down, and I believe there was then a fair-sized swarm of bees sticking to it.

I am confident if I had left the blanket hanging on the fence, it would entirely have ruined my apiary, as I never saw bees so mad in all my life. In fact, I could go nowhere near them the balance of the day, and they hung around and over where the blanket had been, for a long time, and it was lucky for me that my hired man removed the team as soon as I hung the blanket on the fence, or I might have lost a couple of horses. Who can account for it?

Fremont, Ohio.

Something in Favor of the Carniolan Bees.

Written for the American Bee Journal

BY JOHN ANDREWS.

I am inclined to join issue with some of the writers in the BEE JOURNAL on the question of "the best bee" for the masses. My experience has been somewhat different from the most of them. It may be locality, or it may be in the management.

I kept the native or black bees 15 years, after which I bought over 30 Italian queens (some at a big price) to change my blacks so that I might get rich in a short time (by honey alone), but I never saw my "pile," but the first winter's loss was 65 per cent., going into the cellar with a fair amount of bees, and a good supply of honey the fall before.

I kept the Italians 12 years, but could never succeed in wintering them as well as I used to winter the blacks by (at least) 50 per cent., and they never gave me any more honey to the colony than did the blacks; but were much more gentle (when pure) and easily manipulated, but as they became somewhat mixed with the black bee, I often was stung 50 times a day when I was crowding my work, and honey a little scarce, I concluded to change again. So eight years ago I bought imported Carniolan queens, and have made them since that time (as far as I am concerned) "the coming bee." For extracted honey, they will out-do any Italians I had during those 12 years; and neither are the Carniolans behind any other bees for comb honey, but, I confess, it took me 4 or 5 years' study to know just how to work them.

On page 567 of the BEE JOURNAL for 1892, we find Mr. Wm. S. Barclay wants a "rest from the black bee agitation," and wants to know how to winter bees successfully. With his Italians I cannot tell him, but with the Carniolans I winter, commonly, without the loss of a colony; but I cannot say that in the springing I do not lose some; though I have about come to the conclusion to set them with their hive entrance north, and then as the season advances I will

change them gradually, as I can on my bee-yard. Of course, it will take some work, but I think it will pay me. It is the sun coming into the entrance that often starts the bees out, when outside it is too cold for them. This is what I think to be one of the greatest causes of spring dwindling, as colonies facing south I have thought dwindled most of any.

Patten's Mills, N. Y.

Best Paint for Hives—Does it Pay to Paint Them?

Written for the American Bee Journal

BY C. J. ROBINSON.

I wish to add an answer to Query 847—"Is it economy to keep hives painted? If so, what kind of paint is most desirable?"

Generally, it is supposed that "white lead" (so-called) and linseed oil is most durable. So-called white lead is carbonate of lead, the lead, in thin sheets, having been reduced to that state by coming in contact with steam charged with carbon. Formerly sheets of lead were coiled and placed in earthen pots that were filled with vinegar and kept warm. Hence, white lead is of a corrosive nature, has no chemical affinity for linseed oil (poppy oil is best), but slowly decomposes the oil, and at length the paint, being exposed to the atmosphere, rubs off chalky.

The oil should be rendered drying by being boiled with litherage or other "dryers," so as to neutralize the fat contained in raw oil. Two who gave answers mentioned that "white lead and oil (raw linseed oil) is good enough." White lead mixed or ground with *raw* oil does not, by reason of the fatty element present, cohere with a pigment to form an enamel or body, but the fatty oil penetrates the wood on which it is spread, leaving the lead like chalk.

White zinc for painting is an oxide, not so corrosive as white lead, does not decompose oil, but does not form so much of a body as lead does. A mixture of lead and zinc makes a better paint than lead alone; but better still is painting with lead, and then cover it with a coat of zinc, by which means the lead is kept from the destructive action of the atmosphere, which is far more injurious to lead than zinc.

Concerning whether it pays to paint hives, it depends upon circumstances. A hive made of cedar, or such durable material, may be kept in use many years. If made of linden (basswood) or maple (rock) they soon begin to decay when exposed to rain, unless painted. The mineral pigments—yellow ochre, venetian red, umber, and some of the iron ores—are superior in point of durability compared with the metallic paints.

Richford, N. Y.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Nothing Wrong with the Bees.

In the comments on M. D. Andes' bees dying at the rate of 25 to 100 per day for a considerable length of time, it is said that it would indicate something is astray. Suppose they were put into the cellar Dec. 1st, from that time until now would be 110 days—and 100 per day would be 11,000 bees. Now suppose there were 30,000 bees in the hive Dec. 1st, there would still be 19,000 bees left, which I think would be a good, fair colony for spring. I finished putting 82 colonies into the cellar on Dec. 1st, and have carried out an ordinary wooden bucket five times, heaping full, of dead bees, and do not think there is anything wrong with mine. O. B. BARROWS.

Marshalltown, Iowa, March 10, 1883.

Winter and Bees in Minnesota.

For the past week the country here has been entirely snowbound. We have had no mail for six days. The neighbors travel on snow-shoes to see each other. A week ago to-day 20 inches of snow fell in just 24 hours, in addition to the 20 inches we already had before, and is now the deepest snow since the winter of 1856-57; since then we have not had such a heavy snowfall in 24 hours as the one a week ago, which followed a heavy wind storm, and made drifts from 5 to 15 feet high. Trains, to-day, are running again, but the country road

are not opened as yet. We have had hard freezing nights, 24° yesterday, and 14° below zero this a.m., with nice, sunny days.

My bees, in all three bee-cellars, 12 miles apart, seem to be contented so far. I am sure that they feel better than if they were left on the summer stands, packed ever so good. I found out long before this that a good cellar is the best place to winter bees, in this northern country. Those who winter bees on the summer stands will have lots of trouble in winters like this, to keep their bees from smothering in the snow and ice, with heavy losses besides. The snow in my bee-yards is from 4 to 5 feet deep, and it looks now as if it will be a long time before it all will be melted away. If big snow means a big honey crop, then we should get our dishes ready now to hold it all, and not let any go to waste when it does come. I hope we all may enjoy a big harvest the coming season.

C. THEILMANN.

Theilmanton, Minn., March 6, 1893.

Holder for Sections.

On page 148 Mr. Doolittle presents a good way of holding sections tight. My way is similar, only a "shorter cut," namely: I make a key like a tap to a wooden faucet, only smaller, something like a fiddle key; tie to it a cord of binder twine, and the other end to a tack. Have a ⅜-inch hole to put the key in, and a saw-kerf in the corners for the cord to come around. A twist tightens everything snug as a drum. I use the same on the brood-chamber with closed-end frames. M. HAAS.

Mendon, Mich.

Mating of Queen and Drone.

Some twenty years ago I was in the habit of visiting a bee-friend, who was the priest of a Catholic institute on a beautiful hillside near our city. One Sunday afternoon when I drove up, my friend told me that one of the "brothers" (of the order of Franciscans) and himself had seen a queen and drone locked, and fall on the porch, just an hour or two before my arrival. The "brother" had put his foot on the pair before my friend had a chance to prevent him. I had reason to believe that the story was true.

In the *Centralblatt* of Jan. 15, 1893, on page 21, is a picture of a pair—drone and queen—locked in copulation, as they are still kept in alcohol by Mr. H. Reepen, of Jugenheim, Germany. A Mr. I. B. Buchholz found the pair in the grass, near the hive, just after a second swarm had returned to the hive. The queen and drone were locked, and each trying to get away in opposite directions. When Buchholz picked them up, they were alive, but before he put them into alcohol, they had died and turned on top of each other, as shown in the picture, with their abdomens together. The above may be of interest to our friends, and cause the finding of more pairs hereafter. CHAS. F. MUTH.

Cincinnati, Ohio.

Bees Doing Well in the Cellar.

I have 22 colonies in the cellar, and they are doing well so far. They have sealed brood in the combs, and all but two have plenty of stores. This is the second day that I thought fit for them to be out. They did no good last season until harvest, owing to the cold, rainy weather, but the latter part of the season they did fairly well on Spanish-needle and smartweed. I had one swarm issue about the middle of July, and it filled an eight-frame hive, and gave me 30 pounds of surplus in sections. I had 13 colonies, spring count, and got 465 pounds of comb honey, which I sell at 18 cents per pound. I hear of a great many bees dying. They were all left on the summer stands, as far as I can hear, except my own, which are perfectly quiet yet in the cellar, and while they remain so, I shall leave them in there. J. B. DUNLAP.

Rochester, Ind., March 7, 1893.

Bees and Prospects in North Carolina.

We have just passed through one of the most severe winters. Just think for a moment, down here in North Carolina, snow on top of snow, ice and sleet, and the mercury playing close around zero all through January, and our bees out on the summer stands in single-walled hives, without any protection whatever! Well, we wondered and waited to see how our little pets were going to pull through this very cold spell.

At last, about Jan. 25th, there came a nice, warm day. Walking out through the snow to where my bees are located, I at once discovered that they were uneasy, and wanted to get out of the hives. I at once got a hoe, and began scraping the snow away from the entrances of the hives, when out came the bees, and had a nice flight. I found them all O.

K., except two colonies, which were frozen to death, with plenty of honey in their hives.

We had some rough weather in February, and have also had some very fine, sunshiny weather, so much so that the maple blossoms are beginning to open, and yesterday and to-day were very fine days. My bees are carrying in honey and pollen right along. Brother bee-keepers, it would surely have done your heart good to have been with me to-day, out among the maple trees, and heard the sweet and delightful hum of the busy bees among the maple blossoms, and seen them dart from flower to flower. It would certainly have put new life and ambition into your soul.

Let me make this prediction: We are going to have the best honey-flow in some parts of North Carolina this year, that we have had for many years. Get your supplies ready, and manage to have the hives full of bees and brood by April 25th (five or ten days earlier will do no harm); then put on the supers, and if there is not too much rain, you will get a nice lot of honey. Try it, and see if you don't.

JOHN D. A. FISHER.

Woodside, N. C., March 2, 1893.

Compression Theory as to Queens, Etc.

Please score me in the AMERICAN BEE JOURNAL as against the compression theory as to the queen determining the sex of the egg; the fact that a queen will lay both sexes of eggs at will in very shallow drone and queen cells (which are so near the one size)—that with me the theory has exploded.

And here, again, I suppose I am with the minority. I do not believe that the queen carries off the male organs of the drone after mating. My observations do not warrant such a belief.

Manistee, Mich. W. HARMER.

Profitable Reading, Isn't It?

We cannot get along well without the BEE JOURNAL. We are the only ones who take it in this section, and we get more honey than all the others combined. Last year we secured more honey than all our neighbors, and I believe our success was due, to a great extent, to reading the most valuable AMERICAN BEE JOURNAL, as from it we are able to gather the thoughts and the experiences of most of the leading bee-men, not only in this country, but of many of the foreign countries as well, and by so doing we can apply those principles of apiculture which are best suited to our section of the country.

We live in that portion of Pennsylvania known as "Little Greene," in the southwestern corner of the State. We have 35 or 40 colonies of good Italians, and in splendid condition. We are now selling our last year's crop of honey at 20 cents per pound, and trust our many bee-keeping friends are receiving a price equally as good.

JAS. C. POLLOCK & SONS.

Waynesburg, Pa., Feb. 22, 1893.

Nameless Bee-Disease.

I notice in the BEE JOURNAL for March 2, Mr. Chester Belding wishes to know something about the "nameless bee-disease." I have had 2 colonies so affected with it that they were black and shiny, and would come out (and were driven out, also) of the gum until the ground was literally covered around the hive, or in front. They would shake and tremble until they died. I did nothing for them. My case was the first I had heard of. Since then I have noticed in the BEE JOURNAL several such cases. Mine was 10 or 12 years ago. I looked in the hive, but it was all right, with plenty of honey. A. D. BUCKLY.

Weston, Tex., March 5, 1893.

Anti-Adulteration Laws, Etc.

In case the anti-adulteration Bill (page 263) should become a law, how can we prevent our bees from going into the fields and gathering that nasty, filthy stuff called honey-dew, and mixing it with the pure nectar of our white clover and other flowers? It is thousand times worse than pure cane-sugar. The Bill reads, "or cause it to be done by any agency," etc. Now, I claim the bees are our agents, and we are responsible for their actions. I see no other way than to eradicate them from the face of the earth. I am a bee-keeper of 25 years' experience. L. HIGHBARGER.

Leaf River, Ills.

Experience with Bees—Alfalfa.

I bought 2 colonies of bees on Nov. 1, 1891; they had plenty of honey, but were on very crooked combs. I had some wild ideas in regard to bees, and before the spring of 1892 had fairly opened, I had paid out for the bees and other fixtures $43.54.

When spring opened, I found one col-

ony was queenless, and the other reared nothing but drones, and only for some "pointers" I got from a queen-breeder in Texas, I should have lost both colonies. However, I brought both through, and they increased to four fine colonies, and then I got one from the woods. All five have plenty of stores, and are wintering well on the summer stands in winter cases packed with oat-hulls.

There is a great deal of alfalfa raised here, which makes three crops each season; besides an abundance of wild flowers on brush and prairie, and I am looking forward to a good yield of surplus honey the coming season, although I didn't get a bit last summer; yet I have my bees all on nice straight combs of drawn foundation, and in good condition to commence business right, when the flowers bloom. They were gathering pollen from the mills last week, but today we had a little blizzard, though it has cleared off again, and will be warm in a day or two, undoubtedly. I think much of my bees as pets, and find a peculiar excitement in "fussing" with them, which I really enjoy, although I get a black eye occasionally. I take much interest in the BEE JOURNAL, and find it very instructive.

O. K. OLMSTEAD.

Orleans, Nebr., Feb. 27, 1893.

My Experience in Bee-Keeping.

I live on a farm of 93 acres, and commenced to keep bees in the spring of 1889. I traded a violin and some lumber for 5 hybrid colonies in box-hives. I then made some hives of my own that took 9 frames 11x16 inches, inside measure. I let them swarm a couple of times, those that would, and then transferred them all. From some of the first swarms I received 70 pounds of comb honey in two-pound sections, and in the fall I had increased to 14 colonies; besides, I had caught 4 runaway swarms, of which one swarmed, making 5 that I had got by chance; I thus had 19 colonies to start into winter. I wintered them all, and last fall I put 65 colonies into my new bee-house in good condition. They are wintering splendidly so far. I will describe my bee-house later, if it winters bees as well as I think it will.

ANDREW M. THOMPSON.

Whitney's Crossing, N. Y., March 6.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

April 5, 6.—Texas State, at Greenville, Tex.
A. H. Jones, Sec., Golden, Tex.

April 6, 7.—Kansas State, at Ottawa, Kans.
L. Wayman, Sec., Chanute, Kans.

Apr. 10, 11.—Utah, at Salt Lake City, Utah.
R. T. Rhees, Sec., View, Utah.

April 18.—Colorado State, at Denver, Colo.
H. Knight Sec., Littleton, Colo.

April 20.—S. W. Wisconsin, at Wauzeka, Wis.
N. E. France, Pres., Platteville, Wis.

May 4.—Susquehanna Co., at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y

May 18, 19.—South Texas, at Wharton, Tex.
T. H. Mullin, Sec., Eagle Lake, Tex.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Mrs. J. P. Cookenbach, whose advertisement appears on page 387, will be glad to have you write to her to secure a good place to stay during your visit to the World's Fair the coming summer. The BEE JOURNAL refers its readers and friends, with much pleasure, to Mrs. C., who will do the right thing by all who give her an opportunity to help them.

"The Winter Problem in Bee-Keeping" is the title of a splendid pamphlet by Mr. G. R. Pierce, of Iowa, a bee-keeper of 26 years' experience. It is 6x9 inches in size, has 76 pages, and is a clear exposition of the conditions essential to success in the winter and spring management of the apiary. Price, postpaid, 50 cents; or given as a premium for getting one new subscriber to the BEE JOURNAL for a year. Clubbed with the BEE JOURNAL one year for $1.30. Send to us for a copy.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, March 25th, 1893 :

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½ ; dark, 6@7c. Beeswax—23@25c. J. A. L.

CINCINNATI, OHIO.—There is a fair demand for extracted honey at 6@8c. There is no choice comb honey on our market, and prices are nominal at 14@16c. for best white.
Beeswax—Demand good, at 24@27c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

ALBANY, N. Y.—Our stock of honey is light and also receipts. Demand keeps up better than usual this season. We are selling white comb honey at 14@16c.; mixed, 12@13c.; dark, 10@11c. Extracted, white, 9@9½c.; mixed, 7½@8c.; dark, 7@7½c. Beeswax, 28@30c. H. R. W.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line**, for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.
J. A. LAMON, 44 & 46 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & Co., 14 & 16 Hennepin Avenue

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Almost Every Bee-Book that is now published we mention on the third page of this issue of the BEE JOURNAL. Look over the list and select what you want. For every new yearly subscriber that you secure for us at $1.00, we will allow you 25 cents, to apply on the purchase of any book we have for sale. This is a rare chance to get some valuable apicultural reading-matter, and at the same time aid in spreading helpful apiarian knowledge among your friends.

Advertisements.

Texas Reared Queens,

BRED for Business and Beauty. I make Queen-Breeding a specialty. Either 3 or 5 Banded—March, April and May—Untested, $1.00 ; Tested, $1.50. After May, Untested, 75 cents ; Tested, $1.00. **Imported Queens** reasonable. Send for Price-List—Free. Satisfaction guaranteed. Remit by P. O. Money Order or Registered Letter. **W. H. WHITE,**
13A4t DEPORT, Lamar Co., TEX.
WHEN ANSWERING THIS ADVERTISEMENT, MENTION THIS JOURNAL.

Seed Corn Early Dent White, Very Productive—often maturing 90 bu. of sound corn in 90 days. Ears perfect in shape. Planted June 18, 1892, and made a good crop. Price, $1.25 per bushel on board cars here. Bags free. Send 2c. stamp for samples and circulars. **J. R. ESKEW,**
13A Box 336, SHENANDOAH, IOWA.
Mention the American Bee Journal.

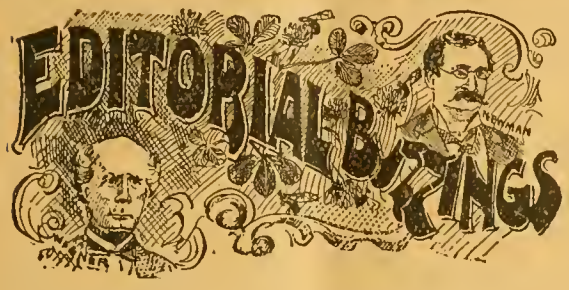
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., APRIL 6, 1893. NO. 14.



"**The Thrush Sings** in the meadow,
The blue-bird flits on the breeze;
The bees are humming in gladness
'Neath the budding leaves of the trees.
There's a laugh, a carol, a gambol,
'Mongst the rivulets and the rills,
And white-hoofed flocks are nibbling
The grasses on the hills.
April is here!"

The North American adjourned to meet in Chicago in 1893, and the forepart of October was suggested. It is important that the exact date be fixed soon, and as a member of the Executive Committee, we would be pleased to learn what time would best suit those who expect to attend. Here is what Mr. J. S. Barb, of Oakfield, O., has to say:

FRIEND YORK:—Is not October pretty late for the North American Bee-Keepers' Association to meet in Chicago? I think it would be better to meet earlier, as there will be more flowers in bloom on the Exposition Grounds. I wish to attend the convention, but also wish to go when I can see the most flowers. What do you think of it?
J. S. BARB.

We are inclined to think that the first week in October would not be too late for the meeting, still we are not particular about it. Whatever is the desire of the majority of those who expect to attend, of course should decide as to the date. We would suggest that all who contemplate being at that convention, just write a postal card not later than May 1st (better do it *now*) to Secretary Benton, saying in just what month and the dates you prefer to have the meeting. That would help the committee greatly in deciding as to the best time to accommodate the most of those who will attend.

We have mot consulted with the other members of the committee about making this "call," but feel that it will be all right, anyway. Address Mr. Frank Benton, at Washington, D. C., in care of the Agricultural Department.

Let all do this at once, and thus show their interest in what ought to be the grandest gathering of bee-keepers the world has yet beheld.

R. E. Harbaugh, of St. Joseph, Mo., committed suicide by taking chloroform, on March 19th. He was a dealer in bee-keepers' supplies, and about 50 years old. It is thought that domestic troubles and partial insanity caused him to take the awful step. He left a wife, a daughter, and a son.

Grading of Honey.—Mr. H. D. Cutting, of Tecumseh, Mich., has sent us the following suggestion on the grading of honey—a subject that received considerable attention at the late convention of bee-keepers at Washington, D. C.:

I would like to make a suggestion, and that is in regard to the "grading of honey." It has been brought up, and in some cases acted upon in several bee-keepers' conventions, and in nearly every case very unsatisfactory. At the coming World's Fair we will have together one of the best displays of honey in all grades and all classes ever seen in this country, and as the bee-keepers will hold a convention at that time, I think it would be proper to withhold all attempts at grading honey until then.

Let it be known that at that convention

all the different grades of honey will be brought together, and with the large number of bee-keepers and honey dealers present, plans will be formulated to establish a grade for honey.

Let every one interested bring a case of honey, with his ideas of what he considers the proper method of grading. I do think, in that way, we can arrive at definite results, and establish a grade for comb and extracted honey. H. D. CUTTING.

We believe Bro. Cutting's suggestion is a good one, and hope it may be acted upon. No doubt the convention of the North American Bee-Keepers' Association in October will be the largest and most representative ever held anywhere, especially if the anticipations of Secretary Benton are to be realized. Many important subjects will receive the earnest consideration of the distinguished leaders in the pursuit, and grading of honey will quite likely have its share of attention.

Those Punic Bees have been the cause of quite a good deal of controversy, it seems. In the March *Apiculturist* (which, by the way, is a splendid Queen-Rearing number), Editor Alley offers the following "slurs:"

We can mention two bee-papers that have never said one word in favor of the Punics, while the editors seem to spend a good deal of time searching both foreign and home bee-papers for all that is said against them.

We do not wish to be understood as making any complaint. Our only purpose in alluding to the matter here, is to show how manifestly unfair some editors are, in what they publish.

It seems strange, if Mr. Alley *could* "mention two bee-papers that have never said one word in favor of the Punics," that he didn't do so. We dislike very much such "hinting" or indirect "slurring," and as he evidently refers to the AMERICAN BEE JOURNAL and us in the above paragraphs, we thought it a good opportunity to inform Mr. Alley that he is quite mistaken, so far as we are concerned.

If any one is "manifestly unfair," it is *he*, for *we* have published *every scrap* of correspondence that has been sent to us relating to the Punic bees, whether it was commendatory or condemnatory of their characteristics. We have no interest in these or any other variety of bees, further than to keep our readers posted as far as we are able, and hence could not well be biased in any way. We surely cannot help it if the majority of those who have had the Punics are disgusted with them.

Although Mr. A. doesn't "wish to be understood as making any complaint," of course all will readily see that it *amounts* to that very thing. It is queer that there are persons who expect everybody to think just as they do, when it is so well known that people look at things so differently. We don't expect that all will agree with *us* in *everything*. We ought all to try, however, in this as well as other matters, to act in accordance with the principles contained in the Golden Rule.

The Vermont Law against the adulteration of sugar and honey is thus referred to by Mr. H. W. Scott, of Barre, Vt., the Secretary of the Vermont Bee-Keepers' Association, in a letter dated March 4, 1893:

EDITOR BEE JOURNAL:—The following is a copy of our Vermont Law against the adulteration of sugar and honey:

1890—No. 52. — An Act to increase the penalty for the adulteration of maple sugar, maple syrup, and bees' honey.

It is hereby enacted by the General Assembly of the State of Vermont.

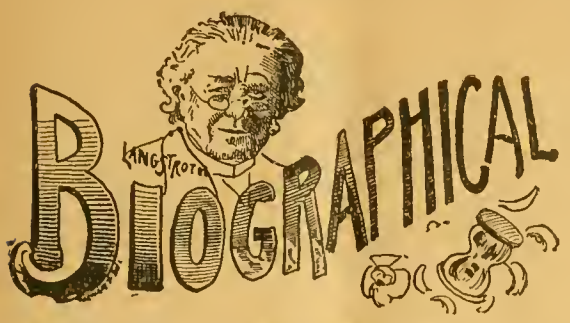
SECTION 1.—Number 81 of the Public Acts of 1884, approved Nov. 25, 1884, is hereby amended so as to read as follows:

A person who shall adulterate maple sugar, maple syrup, or bees' honey with cane-sugar, glucose, or with any substance whatever, for purpose of sale, or who knowingly sells maple sugar, maple syrup, or bees' honey that has been adulterated, shall be punished by a fine of not less than fifty dollars, or more than two hundred dollars, for each offence; one-half of such fine, on conviction, shall go to the complainant.

SEC. 2.—This Act shall take effect from its passage.

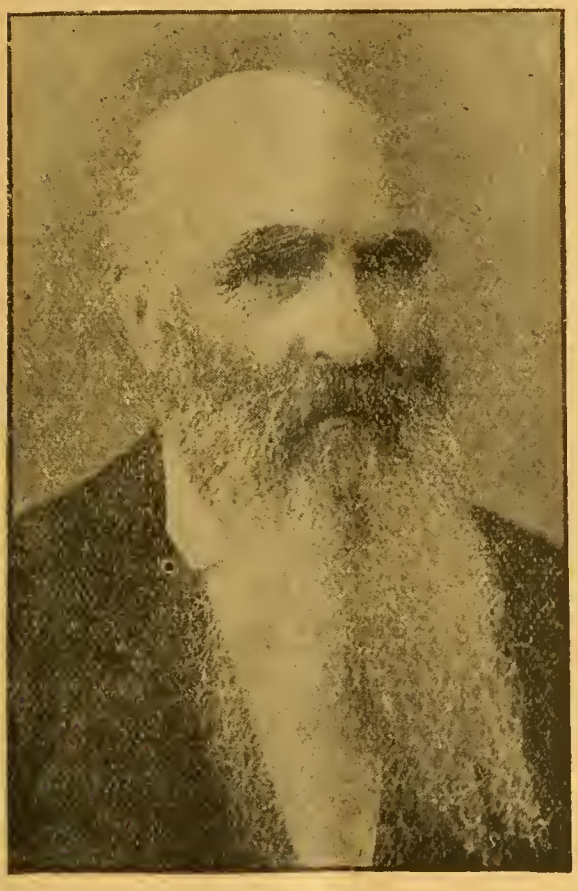
Approved, Nov. 13, 1890.

I have consulted good legal authority, and am advised that the production of sugar-honey (?) would not be a violation of the law, but that the sale of the same, knowing it to be artificial, would be a violation within the meaning of the statutes. I therefore hereby warn any and all persons against the sale of any such stuff in the State of Vermont; and I call upon all bee-keepers who believe in an honest article and honorable dealings, to assist in protecting the producers of pure honey, and the consumers who desire to get what they think they are paying for. H. W. SCOTT.



CHARLES DADANT.

This week we are afforded the pleasure of presenting to our readers an autobiographical sketch and picture of Mr. Chas. Dadant, the senior member of the



CHAS. DADANT.

firm of Chas. Dadant & Son, of Hamilton, Ills., the largest manufacturers of comb foundation in the world. Mr. Dadant is too well and favorably known to the whole bee-keeping world to require any extended introduction from us, hence we at once invite you to a reading of the following interesting account of himself:

I was born on May 22, 1817, in Vaux-sous-Aubigny, a French village of Champaign, near the confines of Burgundy. My father was a doctor of medicine. From the age of 6 to 17 I went to school, living with my grandfather, who was a locksmith in the city of Langres.

Then I entered as clerk in a wholesale dry-goods store, and ten years after I went into partnership with one of the owners of the store. We began successfully; we had earned some money when the French Revolution of 1848 came, followed by the Republic, which was destroyed by Napoleon III, and replaced by his Empire. For six years the trouble and the insecurity lasted, and determined us to quit the business. Then I succeeded to my father-in-law, who was a tanner, but bad luck continued to persecute me.

The city of Langres, the ancient Audomatunum, which, several thousands years ago was the capital of a people named the "Lingones," is situated on a high mountain, which overlooks its vicinity nearly on every side. Cæsar, and the other Roman emperors, at the time when the Roman Empire owned most of Western Europe, fortified Langres with strong walls, which were so well constructed that they are solid yet, after 2,000 years. These walls affording a protection to the inhabitants, the city was densely peopled, and its commerce was facilitated by a quantity of good roads, laid with stones and cement, and directed to every point of the compass.

These Roman roads, as they are yet called, helped greatly the business of the city, which was very prosperous until the railroads came. Of course these railroads refused to climb the high mountains, and built their depot two miles away, in the bottom of a deep valley. Then the city began to depopulate, and its buildings lost 90 per cent. of their value. Compelled to go elsewhere to get a living, I resolved to come to the United States.

It was thirty years ago I came, a poor man, with a family. Unable to understand a word of English, I subscribed for a weekly paper, and began to translate it with the help of a pocket dictionary. But the greatest difficulty was the pronunciation. I was soon able to write so as to be understood, but my spoken English was not intelligible. The French language has very little accent; while the English has the accent on one sylla-

ble in each word, and the scholars themselves do not always agree on the syllable on which the accent ought to be placed. Then imagine the difficulty of a foreigner! A great many store-keepers were amazed to see me explain in writing what I wanted, when they had been unable to understand my language.

As I had already tried bee-keeping for pleasure in France, I began here with two colonies. What I knew of bees had satisfied me that a well-managed apiary would give enough profit to support a family, and the result proved that I was right.

Soon after, I began to rear Italian queens. Being able to understand the Italian language, and having been elected an honorary member of the Italian society of bee-keepers, it was an easy matter for me to try the importation of bees. But the conditions indispensable to success were not yet known, so I lost some money in the undertaking. Then I went to Italy; but the trip was a failure. I had about resolved to quit the business of importing queens, when I began experimenting with Fiorini, and soon after all the queens arrived alive.

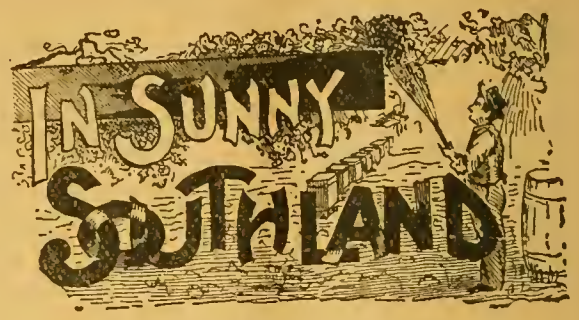
But the care of 400 colonies, with the comb foundation business, was then beginning to give us—my son and myself—as much work as we were able to do, so we resolved to quit the importing business.

We have since revised the book of our friend Langstroth, and published a French edition, which has had the honor of being translated into the Russian language.

I am now 76 years old, and I have enjoyed, so far, good health, thanks to the care of my wife and of our children and grandchildren living with us, *en famille.* CHAS. DADANT.

Alley's Queen-Rearing book, or "Thirty Years Among the Bees," gives the result of over a quarter-century's experience in rearing queen-bees, and describing the practical, every-day work. By Henry Alley. It contains an "Appendix," showing the improvements made in queen-rearing the last four years. Very latest work of the kind. Nearly 100 pages, with illustrations. Price, postpaid, 50 cents; or clubbed with BEE JOURNAL one year, for $1.30.

Read our great offer on page 421.



CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Our School in Bee-Keeping.

SEVENTH LESSON—NATURAL SWARMING.

Oh, yes! I had almost forgotten to tell you about natural swarming.

Well, if you wish the best results in honey, you had better keep down after-swarming, and to prevent it, keep *all* the queen-cells out of the hive but one, and you must be doubly sure you have them all out, too, or they will slip out a second swarm before you know it. So be sure to look into every nook and corner, as there might be a little, short, stubby cell that you will overlook if you do not watch out.

The reason we wish to prevent after-swarms is, they are divided too much to build up in time to catch the honey-flow, and all are lost as to profit the first year. Still, some of our second swarms are just as good as any. I am now speaking in a general way, that it is best to not have them when they are running for honey. Of course, if we are running our bees for increase, it is just as good a way to get it as any way, if we have the time to spare to look after them, if not, we had better practice dividing colonies.

Now, to tell when your bees are going to swarm, look into the hive, and keep watch of them, and when they begin to build queen-cells, and you see eggs or larvæ in them, then look out any nice day, and if they do not come out until the queen-cells are capped, then you may get ready to hive them, as they will be out in a short while, if the weather is fine, and if not, they will swarm the first chance; or, if bad weather continues too long for them, they will tear down all the cells and begin anew; this will be only in rare cases, but is sometimes done, and, too, there some times comes a dearth in honey before the swarm issues, and that will occasionally cause them to tear

down, etc. So it is not always to be an unfailing sign when cells are started, that they will swarm.

The old queen goes out with the swarm, except in a few cases it will be a virgin that will lead off the first swarm. This is the case where the old queen is very nearly worn out, and the bees have prepared to swarm, and bad weather prevents the swarm from issuing until a young queen is hatched, and she kills her mother, and leads off the swarm. The old queen failing to tear down the cells, works things to her own fate, and in a few cases I have found both the old and the young queen out with the first swarm; and in one case four virgins and their mother, all out with a first swarm. But these are only rare instances, and given to show you that bees do not always act just alike, or what one colony does another may do the reverse. So do not become alarmed at anything the bees do, for they sometimes seem like the people of this world "Many men of many minds," etc.

And it is not *always* the right thing to do to clip the wings of the queen of a first swarm, as directed by some, and, in fact, I would not clip the wings of queens at all.

Next will be queen-rearing, both on a small scale, and a large one.

Bee-Notes from Flowery Florida.

Of late I have been visiting homesteads in the pine woods, and at all I found bees kept in the primitive state. Most of the colonies were in tall box-hives made of the heavy pine of this country, and with few exceptions no provisions made for storing honey, except inside of the hive. Where there were surplus boxes, they were merely a cut-off extension of the main hive.

In answer to my query, if I could purchase some honey, I met with the usual response, "We've none taken." This "taking" of honey does not occur, apparently, at any stated period, but whenever the appetite craves it. The surplus honey of last year was yet upon the hives of some colonies, and they were nearly at the swarming point; having large hives, well provisioned, they could afford to rear large families. Many swarms emigrate, for a homesteader secured 8 colonies from the woods the past winter.

The ti-ti, orange and lemon trees are now blooming, and bees are busy all the day, and humming all night the tune of plenty. The bees of this locality are very small and black, and I know of but one Italian apiary. In that great bee-country of Florida, known as We-wa-hitchika, or the Dead Lakes, Italian bees are kept, and all the improved methods of bee-culture are in use.

The writer expects to lecture to night, on "The Relation of Bees to Horticulture." Some fine singers will sing "Dot Happy Bee-Man," and the "Busy, Buzzing Bees." The latter is a new song, written by the editor of the AMERICAN BEE JOURNAL. MRS. L. HARRISON.

St. Andrews' Bay, Fla., Mar. 22, 1893.

Introducing Queens.

On page 28 of the February issue of the *Apiculturist*, Mr. Alley seems to try to take me to task about something, and I hardly know what. He has the following to say:

"The readers of one of our bee-paper exchanges must have had quite a puzzle recently to work out. Mrs. Jennie Atchley pitched into us for what we said in the *Apiculturist* about introducing queens. We were puzzled as much as any one to discover what she was driving at, until it occurred to us that the remarks she made had reference to our criticism of her way of introducing queens. The fair way for Mrs. A. to have done would have been for her to have quoted our remarks, and then made comments thereon. The reader then would have understood the matter, and could have judged for themselves as to whether we or Mrs. A. were in the right.

"Mrs. A. took exceptions to what we said of her way of introducing queens. Mrs. A. said a good way to introduce queens is to remove all the bees from combs of brood, and after placing the queen on the combs, let the colony build up by the increase from the hatching brood.

"Well, now, that does not properly come under the head of *introducing* queens. To begin with, it is far from practical, and is not such as bee-keepers need.

"What bee-keepers desire is a practical plan for introducing queens that will enable them to introduce a strange queen as soon as a full colony is dequeened. Well, there are just those methods in vogue, and thousands of bee-keepers make a success of them."

I have quoted Mr. Alley's remarks in full as above, and as he requests it, I comment as follows:

I may have said some time in my life that it was a good way to introduce a queen on combs of hatching brood, and yet say that it is a very sure way in case we do not wish to take any risk. But, what I said about introducing, that Mr. Alley is driving at, has no relation to the above at all. I said that Mr. Alley

surely had not learned all the habits of bees if he did not know that any colony could be induced to take a queen by taking away all of the brood, and shaking the bees all out at the entrance a time or two, as this was after the nature of bees when they swarm, at which time they will accept any queen. But so long as you allow them brood, they are apt to show fight to a queen or worker. But while they are out as a swarm, they will admit queens, drones and workers, and perhaps bumble-bees, for ought I know. And I said that *should* I have one of that kind of hard colonies to deal with, I would make them take a queen after the nature that a swarm takes a queen.

Now, through some remarks Mr. A. made to something like the above, I "caught onto" it that he had been more than 30 years learning the habits of bees, and yet did not know their nature. Well, neither do I know all the habits of bees, but I happened to be acquainted with that part of their nature, and "Aunt Jennie" was just trying to "larn" Mr. Alley, and it seems that he doesn't want to take "larnin."

Now, nothing that is said above has anything to do with *my* plan of introducing queens, as you will find it described on page 365 of the AMERICAN BEE JOURNAL for Sept. 15, 1892. Now, let all turn to it and read my plan, and then I think they will count me among one of Mr. Alley's "thousands" who are making a success of introducing queens.

Yes, I make it very successful, for at one time last year, in a single day, I introduced 50 queens in less than 30 minutes, without the loss of a single queen! Now, Mr. Alley may be very curious to know how I did all this so quickly. Well, one of the boys had just gone ahead of me and removed all the old queens, and I only went from hive to hive and raised the covers and laid the cages on the frames, wire-cloth down; the end of the cages that contained the candy had no strip on them, as there had none been placed there.

Now I hope the above will give Mr. Alley satisfaction, but I have only quoted from memory, and that is sometimes faulty.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Hives for Comb Honey.

I have 8 colonies of bees in different sized hives—2 are in dovetailed hives, 2 in Danzenbaker, 2 in box-hives, and 2 are in hives of my own make. I want to increase my bees, and I don't know what kind of hives to use. Which do you think would be the best for comb honey? Please answer in the AMERICAN BEE JOURNAL. WALTER R. WOOD.

Bellevue, Del.

ANSWER.—The BEE JOURNAL cannot undertake to recommend any particular hive for any especial purpose, or any other apiarian implement. The reason for this must be apparent to all thinking readers. There are many good hives, and to single out any one would be unfair to the others. So it would be with other bee-appliances.

Yellow Jessamine—Poisonous Honey.

Here in Florida, it is claimed that the honey from the yellow jessamine is poisonous, or at least makes people deathly sick who eat it. I enclose a sample of the plant, and should like to know as to the truth of the claim.

C. F. GREENING.

Orange Park, Fla.

We sent the sample sprig of yellow jessamine to Prof. Cook, requesting his opinion as to the poisonous qualities of its honey, and here is his reply:

There have been a few accounts of bees gathering poisonous honey from a few plants. I have much doubted the truth of such assertions. In the first place, the so-called poisonous plants bloom every year, and yet how *very rare* are even reported cases of poisonous honey. Again, even our best honey is a very rich food, and is poisonous to many, especially if taken immoderately. May it not be over-eating, or an idiosyncrasy in the person that caused the sickness, and not that the honey was poisonous?

I have heard of several cases of pois-

onous honey which I have secured. I had one analyzed last summer, and it was pronounced good honey. I have one now in our Museum, which looks good, tastes good, and does not hurt me, though it was reported to have made an entire family sick. Our students, some years since cut a bee-tree one morning, and all ate freely of the nice honey. The classes that afternoon were very thinly attended, and many a boy wished for his mother. Yet that honey, to my certain knowledge, was of the best quality. What a chance was here for a Xenophon to make a sensational report regarding the poisonous honey of Michigan! A. J. COOK.

Queen Questions—Bee-Feeder.

1. Has the plan of clipping the queen's wings, and having a stake in front of the hive for the bees to cluster upon when they swarm, been tried enough to prove it a success?

2. Will a young queen, when introduced, hunt out and kill the old one in enough cases to make it pay without removing the old queen?

3. Can a young queen, and the small colony that reared her, be united with a swarm when hiving them, without trouble, if the old queen is removed?

4. Is there a feeder on the market that can be placed in one corner of the super, allow packing to be placed around it, filled from the top without removing from the hive, and allow the bees to come up from below to get the food?

I cannot be with my bees much of the time in the summer, so I want to discover some "short cuts."

JOHN PEDELTY, JR.

Mason City, Iowa.

ANSWERS.—1. So few have reported as to their success or failure, that it is impossible to answer you.

2. Can't tell about the hunting out, but you will probably find, if you try the experiment, that the young queen will generally come up missing.

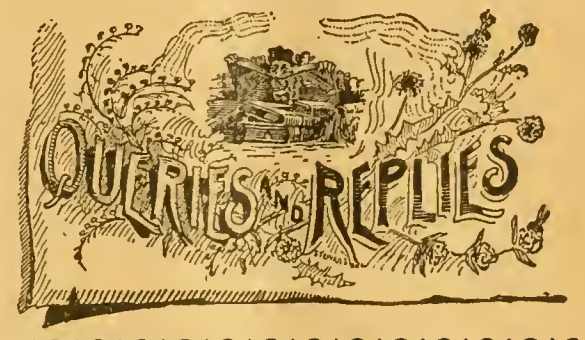
3. Your chances are favorable for success.

4. You can put Simplicity feeders in one corner of the super, but there must be a chance for the bees to get up, and they would likely be in the way when you come to re-fill the feeder or feeders. The Miller feeder would probably answer your purpose admirably. It is the same in surface as a super (you could have them made of any size); all you have to do is to place it on top of the hive, fill it, and then put the cover on. As it holds 20 pounds or more, you would not do much re-filling, but if you should want to do so, not a bee can get up in your way when you take the cover off, unless they fly from the outside.

Maple Sugar for Winter Feeding.

Is it advisable to feed maple sugar in winter, when bees are short of stores, and one has no bee-candy? SUB.

ANSWER.—Whilst the maple sugar might answer, it would hardly be as good, and at present prices you could sell the maple for enough to buy a good deal more cane sugar from which to make the candy.



How to Manage with Loose Bottom-Boards of Hives.

Query 865.—1. In using a loose bottom-board, how do you fasten it to the hive so that it will not shift in handling? 2. Also, in putting in between the bottom-board and the hive a (three-sided) rim, say two inches wide, for winter use, how then do you make all stay firmly together?—Wis.

I don't use loose bottom-boards.—J. P. H. BROWN.

I never used any loose bottom-boards.—MRS. L. HARRISON.

1. The bees do it. 2. I never did that way.—J. H. LARRABEE.

I began with loose bottom-boards, but discarded them long ago.—M. MAHIN.

1. I do not fasten them. 2. I find no need. I keep no out-apiaries.—A. J. COOK.

1. The bees will fasten the bottom-boards, etc., tight enough.—WILL M. BARNUM.

I have never used anything but a tight bottom-board, therefore, "I don't know."—JAS. A. STONE.

I don't use them. Give me your excuse for a loose bottom-board.—MRS. JENNIE ATCHLEY.

I don't use loose bottom-boards. If I had hives with loose bottoms, I would nail them on.—E. FRANCE.

1. I don't fasten it. If I did, it would not be loose. 2. I don't use the rim, and don't need it.—A. B. MASON.

Our hives are differently constructed. I have seen Van Deusen hive-clamps used for this purpose; also hooks and screws.—P. H. ELWOOD.

Use hive-hooks made for this purprse, or, better still, have the bottom-board nailed to the hive. I do not like to have more loose pieces than is necessary.—MRS. J. N. HEATER.

1. Use the Van Deusen wire-clamp, or a simple hook. 2. Leave out the "rim;" or if you must go to this useless trouble, tack it fast with nails.—EMERSON T. ABBOTT.

1. I generally use screws, sometimes pieces of tin, and ¾-inch wire nails. 2. By using a bottom-board of my own invention, being a shallow box 1½ inches deep, with one end open.—C. C. MILLER.

1. I have usually hooked the bottom-board to the hive by using two hooks on each side. 2. A dozen ways can be devised by which this can be done. Any of which would be easy and simple.—J. E. POND.

1. With pieces of lath and shingle nails. I have moved a good many bees, and tried strings, wire, hooks, screws, and other fixings, and found nails and lath the best of all. 2. Same way.—S. I. FREEBORN.

1. I don't fasten them. I lift the hive by taking hold under the bottom-board. They can be fastened, however, by the Van Deusen clasp, and some people who are very precise use them, or a similar device.—EUGENE SECOR.

1. I lift the hive by putting my hands under the bottom-board. 2. I use no rim, and take off the bottom-board also in wintering—in the cellar. If I used a rim, I could safely rely on attraction of gravitation to keep everything firm.—R. L. TAYLOR.

I use a maleable-iron hook of my own invention. In using a wooden rim under a hive, I use a hook on it also, making two hooks on each side. Hooks and screws must be placed in exactly the same position, so they will all be interchangeable.—C. H. DIBBERN.

I use a reversible bottom-board, and get the 2-inch space. I have no trouble with sliding about, if done say 8 to 10 days before you want to remove to the cellar. The bees do the fastening. If I were to remove in a wagon, I would use the small iron clamps made by Dr. Tinker.—H. D. CUTTING.

I do not fasten it at all. I had a hive to "blow over" last winter, and the bee-glue kept it intact, although it was a two-story hive. This winter a hive in my apiary toppled over in time of the January thaw; it parted from the bottom-board, but the upper story kept its place. Bee-glue does the work.—G. W. DEMAREE.

We use a light, maleable Van Deusen clasp on single hives. On winter hives they are not necessary, nor is the two-inch rim spoken of. I have used a great many of the 2-inch rims in wintering, but consider them a damage in wintering. They should be cast aside with the other useless contrivances of the apiary.—G. L. TINKER.

1. I do not so fasten it. Pick up the hive with the hands under the bottom-board, or use the Van Deusen clamps. 2. I leave the bottom-boards on the summer stands in winter, and pile the hives on top of each other, using pieces of 2-inch stuff between the bottom of the upper hive and the top of the one below. Extra Van Deusen clamps will hold all together, if you so desire.—G. M. DOOLITTLE.

1. I do not want it fastened except when bees are to be hauled. Then I fasten the top and bottom together by means of wire loops hooked over nail-heads projecting slightly from the cover and bottom-board. These loops are then tightened by the use of "spreaders"—small sticks with notched ends. 2. I would not use a rim with only three sides. There should be no difficulty, though, in fastening the parts together, if it was desired. Under ordinary circumstances, the weight of the hive should be sufficient.—JAMES A. GREEN.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

Report of the Indiana State Bee-Keepers' Convention.

Written for the American Bee Journal
BY WALTER S. POUDER.

The 13th annual convention of the Indiana State Bee-Keepers' Association met in Indianapolis on Jan. 18 and 19, 1893.

The meeting was called to order at 1:30 p.m., with President R. S. Russell, of Zionsville, in the chair.

After some miscellaneous business was transacted, the minutes of the last meeting were read by the Secretary, and, upon motion, adopted as read. The Treasurer's report was also read, and ordered placed on file. Next followed

The President's Annual Address.

Ladies and Gentlemen :—It is with much pleasure and many thanks to the Father of all mercies that we are again permitted to meet in earnest social deliberation, whereby each may gain wisdom from the practical labors of others, and be better equipped to solve the many difficult problems of our favorite pursuit—Apiculture ; and to this end, it is my desire that every member lay aside every selfish motive and strive only to glorify our common industry.

We have other urgent duties to perform at this meeting, other than the line of the programme. If it is desired to place our industry in a firm basis, the first thing to be considered is the "Paddock Pure Food Bill," which is now pending in Congress, and in which all honey-producers are most vitally interested. Second, our State exhibit at the World's Fair should be promptly considered ; third, our By-Laws should be amended ; fourth, our State Premium List should be carefully revised and honestly adjusted to benefit the entire industry in a becoming manner ; and, lastly, three competent judges appointed by this Association, either of which could award these premiums intelligently in the absence of the others.

As our State Fair is beyond doubt our greatest educator, it is absolutely necessary that our interests be intrusted only to the most competent persons of our industry. The exhibit made last year was very creditable, considering the fact that last year was the poorest honey season ever known in Indiana. This was due to the prevailing drouths, and never perhaps in the history of our State were the clovers so nearly exterminated, and even our noble basswoods and fruit-trees of all kinds could scarcely spare sufficient nectar to pay our bees to visit them, so nearly were they famished. It truly was a very dark year for the bee-keepers, but still we should not despair.

I still have something further to say. Copious rains came just at the right time last fall, and at this time, all honey-plants are in finer condition than I have ever seen them before ; and, if I am not badly mistaken, 1893 will be recorded as the greatest year for honey-production ever known.

Now, dear friends, under the present encouraging prospect, if we are not already planning, reading and thinking, now is the time to begin and to work as we never did before, until the harvest is secured. Fully believing that our meeting will prove both pleasant and profitable to all the bee-keepers of our great State, I will defer all further remarks at the present time. R. S. RUSSELL.

Some Reports for 1892.

A summary of reports of the Indiana bee-keepers for the past season were called for and rendered as follows :

George P. Wilson, of Tollgate—The past year has been one of the most discouraging for the apiary that I remember. The spring was cold and wet, the rains continuing until late in the white clover bloom, thereby causing a very light crop of honey. From 12 colonies I got five pounds of comb honey, but had no extracted honey. This was generally the case with all the bee-keepers of my acquaintance. One man told me that he had 50 colonies, and got no honey at all. Owing to these discouragements, I have been unable to induce all my neighbor bee-keepers to attend the convention this year ; but I have sent out about 200 programmes, and have written all bee-keepers urging them to attend.

Our society seems to lack the interest that so important an industry demands, and I think some effort should be made to interest the whole bee-keeping fra-

ternity in our yearly meetings. The Legislature of Illinois passed a Bill appropriating $500 per year to the Illinois Association to pay their expenses, but not a dollar of it is to be used to pay the officers for their services. I think if we had an appropriation of $100 per year, we should have crowded rooms at each meeting. In order to arouse more interest, I would recommend that every bee-keeper who is present this year go home, tell his neighbor what a pleasant time he had, and urge them to come to the next convention; and when the time comes, don't let them forget it. Even the oldest bee-keepers can learn much from the novices and beginners.

Peter Raab, of Brightwood—I had only one colony of bees this year, and got but 16 pounds of honey. I had no increase.

James Catterson, of Brownsburg—I had 30 colonies, sold $7.00 worth of honey, and have on hand 200 pounds. My best colony yielded 40 pounds. The increase was 6 swarms. Generally speaking, the bees did not do well.

Chas. F. Muth, of Cincinnat.—Bees stored no honey the past year, the principal cause being cold nights. My bees were very strong in April, and I fed them as they were short of stores. I got about 800 pounds of surplus honey, resulting from 20 acres of Alsike clover. I got no fall honey. I think one cause of the general failure was that in spring the stores were used in brood-rearing, and the bees starved for want of being fed. I have each year from 20 to 40 acres of Alsike clover, and the bees get most of their honey from that. I never got any surplus honey from the weak colonies.

George C. Thompson, of Southport—My colonies were very strong, but I got no honey until fall, and then the smart-weed furnished about as much as they would consume during the winter.

Walter S. Pouder, of Indianapolis—My bees were in good condition, but I got very little honey; they had enough, however, for winter stores. I should have had some surplus honey if I had not disposed of so many bees in filling orders. I expected to have to feed in the fall, but was surprised to find the hives well filled with honey, which I thought was from the smart-weed.

R. S. Kitley, of Julietta—I got 50 pounds of comb honey, and three gallons of extracted honey. I had in all 20 colonies of bees, but they did not do well at all.

W. H. Wright—I had only a few bees—in all two colonies—and from these I get no honey at all. There was none in my neighborhood. I had two swarms. The hives were full in the fall, probably from buckweat, as I saw buckwheat in the corn at the last plowing.

A. J. Simmons, of Indianapolis—My bees are all in Illinois. They did fairly well there, getting honey from bursted acorns. They had plenty of honey for winter stores. It was too cold and rainy for honey from white clover, although I succeeded in getting some from the red clover.

James Catterson—Early in the spring I looked over my bees and found them in good shape, but found that they were removing the larvæ from the cells; this signified that they were out of stores. I then fed them, and had no further trouble. The month of June was very wet until about the 10th, then for about ten days the bees did well; after that the flow stopped, and there was no more honey until fall. I use the old American hive.

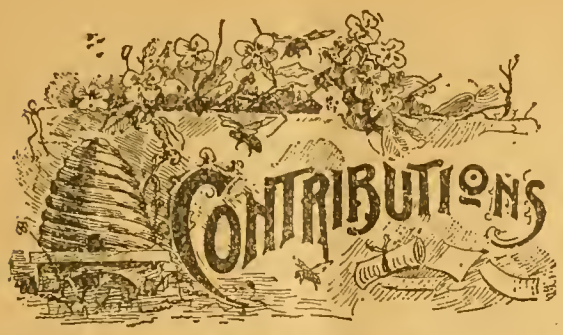
Chas. F. Muth—Mr. Simmons speaks about his bees getting honey from bursted acorns. I think he must mean that they got it from honey-dew. There were no fall honey-plants where I was. Buckwheat yields honey about once in five years, and I used to think that melilot was good, from what others said; but it is a failure—in fact, a perfect nuisance, for it grows so thick and rank that it kills the white clover. The best fall honey-plant is the aster; the honey from this plant is perhaps not so good, but it does very well for baker's use.

John Manford, of Noblesville—My bees did not do well, but I got some surplus honey. The fall flow was good, and the hives were full for winter. In June I united 14 colonies down to five.

What, in your opinion, is a strong colony? Ans. Eight frames of brood with the adhering bees.

(Continued next week.)

"The Winter Problem in Bee-Keeping" is the title of a splendid pamphlet by Mr. G. R. Pierce, of Iowa, a bee-keeper of 26 years' experience. It is 6x9 inches in size, has 76 pages, and is a clear exposition of the conditions essential to success in the winter and spring management of the apiary. Price, postpaid, 50 cents; or given as a premium for getting one new subscriber to the BEE JOURNAL for a year. Clubbed with the BEE JOURNAL one year for $1.30. Send to us for a copy.



The Location for Bee-Keeping, and Over-Stocking.

Written for the American Bee Journal
BY G. M. DOOLITTLE.

The above subject has been sent me, desiring that I should give my views in the AMERICAN BEE JOURNAL on the matter. If I were at liberty to choose a location when I desired, and could find such an one, it would be in a place where the land sloped gently to the southeast, with pasturage as follows: Some willow to stimulate early brood-rearing, with sugar maples to follow; then apple blossoms, as an assurance of plenty of honey from apple to white clover, which should be abundant.

Next, I should want plenty of basswood, and that on a hillside or mountain, so as to prolong its bloom, and, lastly, where buckwheat was raised. Of course, if asters and golden-rod could be plenty in the fall, it would be still better. But most of us have other ties beside the bees which fix our location, and so we have to put up with such an one as we have, and the man is to be honored that can be contented and bring about good results with only limited bee-pasturage at his own home, where duty calls him to remain.

If I could have but one of the above-named sources of honey, I would select basswood first, clover second, and, lastly, buckwheat. From all sources of information I can gather, basswood is the greatest honey-producer in the United States, for the length of time it is in bloom.

The lay of the land is not of so much importance as the forage, for tight fences, or belts of evergreens can be placed around the bee-yard to protect it from high winds.

I would have the hives face the south or east, if possible, as the bees start earlier in the morning than when they face the north and west; also, our prevailing winds are from the direction last mentioned.

My views on over-stocking may not be considered quite orthodox by all, yet after years of experience I find them not far out of the way. If I had a location such as the one above described, I should not fear overstocking it with 400 to 600 colonies, but I think that from 150 to 200 would be as many as an average location would support to the best advantage, while there are places that 50 would be as many as would give good results to their owner.

When we take into consideration that bees fly, from choice, from two to four miles from home, and are led on, by receding bloom, to five, six and seven miles, this matter of over-stocking is not so much to be feared as many suppose.

"But," says one, "bees do not go more than 1½ miles from home, and if they did, it could not be made profitable, as so much time would be consumed in flying that it would not pay." To the first I reply that plenty of proof can be brought that bees fly more than 1½ miles, and I will give a bit of experience to the point, without calling in any other, viz:

About the year 1868, a gentleman in Marietta, a small town three miles distant in a straight line, purchased some Italian bees. The next spring (before I had any Italians, or before there was any of that variety in this locality) I was watching the bees at work on apple blossoms, and presently saw an Italian collecting honey. Upon examination I found that an average of one bee to five were Italians, and this with apple blossoms in profusion everywhere.

Once more, in haying, as I was cutting a field of clover, in this same year, one mile from home, or four miles from these same Italians, I saw bees at work on the clover. Having heard much about Italian bees working on red clover, I jumped off the mowing machine, and, to my surprise, counted five Italians to two blacks, with fields red with clover blossoms everywhere.

Now, to the last objection, that it is not profitable for bees to fly so far, I may say that to the southeast of my apiary, the land rises gradually for five or six miles, and at the end of the distance it is 800 to 1,000 feet higher than at the bee-yard. Unless interrupted by a long rain, the bees follow the receding bloom of basswood until the top of the hill is reached, and I can see no slackening of work in the sections as long as the bloom is plenty on this

hill. The bees, also, all work in that direction.

The length of time consumed in flying while at regular work, is not very great, as a bee can fly at a high rate of speed in a still day, said to be from 30 to 90 miles an hour. Of course they do not fly as fast when loaded, or when nearing or starting from the apiary, as they do when empty or fully under way.

I have often laid down flat on my back on some elevated spot, to watch the flight of passing bees, and, by shading my eyes by placing a hand on either side of the face and looking steadily up for a little while, until the eyes became accustomed to the strong light, the bees became plainly seen against the sky, while the rapidity of flight appeared to equal that of our fastest passenger trains. In this way some idea may be formed of the flight of bees, which would hardly be thought while looking at them near the apiary.

If bees did not go over 1½ miles for honey, I think that 100 colonies would overstock most localities.

In conclusion, I would say that if the proper attention is paid to securing the maximum number of bees in the beginning of the main honey-flow, so that multitudes of contented laborers will be on the stage of action at just the right time, there will be less cry about overstocking and poor seasons than there has been in the past. Secure the bees just when the crop is to be harvested, and they will secure the honey, if any is secreted within four miles of you.

Borodino, N. Y.

Wintering Under Ground—Fastening Comb Starters.

Written for the American Bee Journal

BY C. E. MEAD.

Does this solve the "winter problem?"

On page 47, of Vol. XXX, Mr. L. J. Clark, of Wiscoy, Minn., reports taking a colony of bees from a burr-oak root, on the west side of a hill. The bees were *two feet* under ground, and in remarkably good condition.

Could anything have been more favorable to good wintering? They were above the freezing point at all times, therefore they could breed, and not consume much honey. Mice would find them at home! They could fly when the weather would permit. They had all the advantages of cellar and out-door wintering, and none of the disadvantages.

Why not bury bees in a side-hill, with a spout the width of the hive, and ⅜-inch high, reaching from the hive to the open air, and have the same conditions? The hole for the hive could be bricked up, and made permanent for many winters.

HOW TO FASTEN COMB STARTERS.

My way of fastening comb starters into sections is as follows:

Take an earthen dish as tall as it is wide; fill it two-thirds full of boiling-water; place over an oil-lamp; and put in some nice, clean beeswax. Now, *keep* it just at the *melting point of beeswax.* (If too hot, it cuts away the comb, and enough of the wax does not adhere to the comb to stick it firmly to the sections.)

Now have the white starter combs warm enough so you can cut them into the right sized pieces, and not have them break into small bits, as they will do if too cold. Having the starters in a pan handy, turn the sections top downward, and touch the comb to the melted wax, and quickly place it in the section. Have the septum in the center of the section.

I think this plan beats Doolittle's hot-iron. Try it and see. I never have tried fastening foundation in this way.

Chicago, Ills.

Importance of Keeping Records of Queens.

Written for the American Bee Journal

BY S. E. MILLER.

How many bee-keepers and queen-breeders keep a record of the ages and methods of rearing their queens? If we keep no record, how are we to know what methods give us the best results?

Here we find a queen has suddenly failed, has been superseded, or here is one whose colony has died in the winter; if we have no life history of her, how are we to know to what we shall attribute the cause? We know she is dead, but how old was she? By what method was she reared? and has she given good service for the full time alloted to a queen? Surely, with 50 to 100 colonies, you cannot keep this all in your mind!

Again, if we know nothing of her history, how are we to know whether to continue rearing queens by the same method, and from the same strain? When we know that so much depends upon the queen, we should endeavor in

every possible way to keep only the best that can be reared.

I give below a system that we have been using for some time, and one with which I can find no fault, so far:

We use the little slates recommended by Mr. A. I. Root, to be hung on a nail driven into the hive, for keeping a record of each colony. On one side of the slate we keep in a sort of short-hand, or abbreviation, a record of the condition of the colony. On the other side of the slate we have something like this:

Age, Jun 92.
D. S. rd. abov Exc.

This means that the queen was hatched in June, 1892 (showing her age). "D. S." means that she was reared from eggs from one of Doolittle's Queens, or Doolittle's Strain or Stock; and "rd. abov Exc." means that the cells were built over a full colony having a laying queen below, and a queen-excluder between the upper and lower stories. If the latter read "rd. by N. S.," it would mean that the cells were built under Natural Swarming, or by bees under the swarming impulse.

We find the best thing for writing on these slates to be a medium soft lead-pencil. Under ordinary circumstances this writing will last for many months, or even a year, and that, too, when exposed to the elements. Should we find the writing becoming dim, it takes but a few seconds to renew it. By holding the slate so that the light strikes it at the proper angle, this writing is quite plain, and is easily read.

Many, no doubt, prefer keeping records in a book provided for the purpose, and having the hives or colonies numbered. But no matter how we keep the record, is it not surely worth the time and trouble?

Bluffton, Mo.

Burr-Combs on Brood-Frames—Hybrid Bees, Etc.

Written for the American Bee Journal
BY C. A. MONTAGUE.

Where deep frames are used, is there found to be as much trouble with "burr-combs" as with shallow frames? Do those who use the Quinby frame generally have as much bother in this direction? This frame I have never used, but ever since I commenced to handle bees (in 1882) I have had both the Langstroth and Gallup frames in constant use. Invariably, I have had much more trouble with burr-combs on the Langstroth. In fact, I have had so little trouble with the Gallup that I would at once change to that frame, were it not for the expense.

The greater depth of the Gallup frame leaves the cluster in better shape for wintering. On the other hand, I work for extracted honey, mostly, and I find it slower work to extract from this frame, where the bees are allowed to cap the honey. This would make little difference, however, especially as I can procure *more* honey, and of *fully as good quality*, by extracting just as soon as the bees commence capping.

I strain the honey into the tanks (it is much easier to strain if extracted before it is capped), and tie cheese-cloth over the tops of the tanks. I think the editor will acknowledge that it is good honey. [Yes; the sample sent to us was excellent.—ED.]

I used 100 of the improved Hoffman frames the past season, and I could see no difference as to "burr-combs," but they are much easier to handle. Excepting the Gallup, my frames all have the thick top-bars.

PREFERS THE HYBRID BEES.

I am not sure that I care for any of the "yellow" bees. I find that my hybrids are more cross, and build comb wherever they can find a chance; but they are more active, can't be robbed, and *gather more honey;* and *that's* what I want.

Archie, Mich.

Treatment of Swarming Queens Explained.

Written for the American Bee Journal
BY DR. C. C. MILLER.

I have received the following letter from James P. Hall, of Wyanet, Ills., which I desire to answer in the AMERICAN BEE JOURNAL:

FRIEND MILLER:—On page 69, in your book, "A Year Among the Bees," you state, "After the queen is in the cage.....and the cage put where the bees can take care of it," etc. Now, what I wish you would make plain to me is this: When the queen's wings are clipped, and a swarm issues, and the queen found and caged, how long do you allow the queen caged before she is released?

The trouble with my clipped queens the past season was, they would stay in

the hives but a short time. I would often find them strolling over the ground, sometimes with a small lot of bees with them. Please make this matter plain to me, and oblige.

JAMES P. HALL.

I think I see your difficulty in understanding, Mr. H. In the second paragraph, on page 69, I speak of caging the queen, and then it *appears* as though I left the subject, having said all I had to say about it. But if you will consider it as closely connected with what immediately follows, I think you will find all clear sailing.

The caging the queen, and leaving her in care of the bees, is merely the first step in the process, and whatever plan may be followed afterward, the first thing to do is to cage the queen, for if she is left free, the colony will continue to swarm until she is lost, or a young queen goes with the swarm. And that's just what yours did, from which I infer that you left the colony without any further treatment, and freed the queen some time before a young queen had issued. I'm speaking, of course, of a clipped queen.

Now just consider the caging as the first step, and follow one of the plans outlined on page 69 or page 70. If you follow the Doolittle plan, the one first given, you will kill all queen-cells in five days from swarming, then again kill all queen-cells five days later, at the same time freeing the queen; you will thus see that the answer to your question is that I release the queen in ten days from the time of swarming.

If I haven't made all clear, ask again. I don't know that any of the plans given in the book can be counted as best, but I think I would rather use any one of them than to have all swarms hived in the regular way. But every one doesn't dislike swarms as I do.

Marengo, Ills.

Bees and Fruit—Some Careful Observations.

Written for the American Bee Journal

BY L. J. TEMPLIN.

I see by the action of these Michigan fruit men, on page 41, that ignorance of bees, and prejudice against them in the orchard, are not extinct. This is a subject that I have investigated for many years, both in Indiana and in this State, and all my observation has led to a conclusion in direct opposition to the theory that bees ever puncture sound fruit.

I have often seen bees at work on fruit that had been cracked, or had been punctured or bitten by other insects, but I have never seen a bee puncture, or try to puncture, the epidermis of a sound fruit.

I am a fruit-raiser as well as an apiarist. In my orchard I have apples, pears, peaches, plums, cherries and quinces, as well as a good list of small fruits. Bees are kept in all directions from and within 40 rods of this orchard, and yet I do not believe I have ever been damaged to the extent of 10 cents by the bees working on my fruit.

My vineyard of two acres lies just in front of the apiary, and comes within about 100 feet of it. The bees have to pass directly over the vineyard to reach the alfalfa fields just below, but I have never been able to detect a bee at work on the grapes; nor have I ever seen any sign of such work. Sometimes, when the bees are booming on the alfalfa, the mowers are set to work, and in two or three days all the alfalfa in bloom within reach is cut for hay. The bees are sadly demoralized, and may be seen searching in every nook and corner for something to carry to the hive. And yet no evidence of their ever attacking the grapes has appeared!

True, all this is negative and circumstantial evidence, yet it does raise the presumption of the innocence of our little pets, and in the entire absence of any affirmative testimony, it carries all the force of positive evidence.

So far from being an injury to the fruit crop, bees are almost an essential aid in securing the perfect fertilization of fruit-bloom; especially is this true in certain unfavorable seasons.

I think in equity, those 25 neighbors (?) of Mr. Pearce, ought to give to him from 5 to 20 bushels of peaches each, every year, as part compensation for the services of his bees in helping to secure good crops of fruit. So thoroughly am I convinced of the importance of their aid in this matter, that if I were to engage exclusively in fruit-raising, if no bees were kept near me, I should keep a few colonies for the benefit of my fruit crops, if for nothing else.

Canyon City, Colo.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Bees Getting Along Finely.

Bees are getting along finely so far. I am wintering 57 colonies, and hope they will do better this year than they did last, which was a failure in this part of the country. F. F. ZILLMER.

Boscobel, Wis., March 13, 1893.

Worst Winter on Bees.

We have had the worst winter on bees that I can remember—nearly four months without a flight. We shall have heavy losses, as bees went into winter very weak on account of no fall honey-flow.

J. C. LILLIBRIDGE.

Port Allegany, Pa., March 18, 1893.

Fine Prospects for 1893.

I put 140 colonies of bees into a bee-house last fall, and they have come through the winter all right, not losing a single colony. They have had a good flight since putting them out. I never had bees winter better. They are strong, and have plenty of honey. The prospects are fine for the coming season. Last season they did fairly well. From 55 colonies I increased to 140, and sold 4,643 pounds of comb honey.

E. R. WRIGHT.

Davenport, Iowa, March 20, 1893.

Building Up Weak Colonies, Etc.

As the time for building up weak colonies is at hand, I will give a plan that I have used for a number of seasons with gratifying results. The plan usually given is to take a comb of brood from a strong colony, and give it to the weak one, but this is accompanied with too much risk of having the brood chilled, should a cool night ensue before a sufficient number have hatched for protection.

The plan that I like better is to cage about a pound of bees in a cage such as is used in shipping bees by the pound, and place them in the side of the hive as close to the cluster as possible, after removing the empty combs. They should be left in the cage 4 to 6 hours, so that when liberated they will have the same scent, as much as possible.

Then after the flight for the day is over, loosen one side of the cage next to the combs, to let the bees out, and close the hive at once to prevent the bees from flying and getting lost. The cage can be removed on the next day, and the operation repeated until the colony has bees enough to carry on breeding successfully.

A prepared comb of brood may be given at this time, with safety—that is, one that was placed when empty between two populous combs of brood in a strong colony 21 days before, so that hundreds, and perhaps thousands, of bees will hatch from this prepared comb in the next 24 hours, and will continue to do so for some time to come.

Bees properly protected have wintered well as far as heard from. I have lost 2 colonies out of 91, and one of those was carried off and robbed of their honey on a cold night, and the other was queenless.

I am in favor of fighting adulteration through the Bee-Keepers' Union.

J. L. STRONG.

Clarinda, Iowa, March 13, 1893.

Wintered Finely—Alfalfa.

My bees have gone through the winter finely, losing only one colony out of 56. They are rearing brood fast.

Is alfalfa clover a honey producer?

F. J. R. DAVENPORT.

Nash, Tex., March 18, 1893.

[Yes; alfalfa is a most excellent honey-plant, and is found in great abundance in several of the Western States.—ED.]

Bees Put Out Earlier than Usual.

Owing to the water getting into my cellar the last of February, I was forced to try the experiment of putting my bees out on March 2nd—about a month earlier than is customary in this latitude. And although we have had considerable winter weather since then, I entertain no fears regarding their safety. They gathered the first pollen (from maples) on March 12th, and seem to be in fine condition.

W. J. CULLINAN.

Quincy, Ills., March 17, 1893.

Experience with Bees in Virginia.

I have been interested in bee-culture, in connection with other avocations, for 20 years, but I knew nothing of the improved methods of bee-keeping until two years ago, when, by chance, I saw some advertisement of bee books, papers, etc., and very soon I was in possession of all the bee-literature I needed, and I took no little interest in the study of bee-culture. I must say that I have gained much information from the AMERICAN BEE JOURNAL, so full of practical experience from enterprising apiarists.

I have had many "side shows," as my wife calls them, in connection with my merchandising business, but bee-keeping beats them all in the way of interest and

pleasure, and I hope the compensation will follow and be realized to some degree this year.

Last year I bought, and had made, 40 dovetailed hives, and from 28 colonies, spring count, I filled all the hives, and still have about one dozen colonies in box-hives, now disgracing my apiary, all of which I will transfer to improved hives with movable frames.

I bought queens and Italianized successfully 9 colonies out of 10. I also have one Punic queen successfully introduced. My bees are in fine condition for winter time. They gave me plenty of surplus honey for a large family, and some to give to my friends. I expect big things from my apiary this year, when the sourwood blooms.

Mount Airy, Va. G. A. CREASY.

Very Severe Winter for Bees.

We have had a very severe winter, and lots of bees have died. It is still cold, this morning the thermometer being down to 12 degrees of zero. LOWRY JOHNSON.

Masontown, Pa., March 6, 1893.

Fine Prospects for a Good Crop.

I have 66 colonies now. We have had an abundance of rain, and the prospects for a fine honey crop are certainly good. My bees did not do much last year—about an average yield of 17 pounds of comb honey per colony. They are situated in the mountains at Acton, Calif., where the bee-forage is principally white sage and buckwheat.

JOHN HAUSER.

Acton, Calif., March 9, 1893.

Bees Appear in Good Condition.

I had 27 colonies of bees, spring count, and put 49 colonies into winter quarters, packed in chaff three hives deep, under a shed 4 feet wide and 4 feet high. Four colonies are dead. Bees had the first good flight on March 9th, that they have had since Dec. 1st. They appear to be in good condition. I had about 1,500 pounds of surplus comb honey last season. I like the BEE JOURNAL. C. L. NELSON.

Odebolt, Iowa, March 11, 1893.

Encouraging Prospects in California.

From the way things appear at this writing, I should not wonder if we had a fine crop of honey this year. Everything points that way. Of course the way the weather acts later on in the southern part of the State will have much to do with the size of the crop. Up here, everything is insured for a very fine crop. We have had sufficient rains already, and we are sure of more at the right time. I was in to see a firm in San Francisco that is handling bee-supplies, and they tell me they are having more calls than they anticipated so early in the season. This is encouraging.

Our Legislature has been too much taken up with investigations and Bills that were introduced early in the session, to find time to do anything for our bee-keepers. I am sorry that they did not start to ask for an appropriation early in the session, for I am quite sure that they could have obtained it. At any rate, they will know what to do two years from now, when the next Legislature meets.

Though I have been elected by our State Bee-Keepers' Association, to represent it in the next National convention at Chicago, I am afraid that I will not find it convenient to be there. Still, time will tell.

WM. A. PRYAL.

N. Temescal, Calif., March 6, 1893.

Record of a Colony on Scales.

The following is my scale hive record for the season of 1892:

May.			June.		
28	Gain	1½	28	Gain	½
29	"	¾	29	"	1
30	"	9½	30	"	1¼
31	"	5¾	July.		
June.			1	"	1½
1	"	4¾	2	"	3
2	"	0	3	"	2
3	"	2¼	4	"	0
4	"	2	5	"	0
5	"	6	6	loss	¾
6	"	3¼	7	"	1
7	"	1	8	"	½
8	"	2½	9	swarmed; the swarm weighed	7½
9	"	7	10	gain	2¼
10	"	1	11	"	1¼
11	"	2	12	"	¾
12	"	2¼	13	"	1¾
13	"	2	14	"	2
14	"	2	15	"	¾
15	"	1½	16	"	1¾
16	"	1	17	"	1¼
17	"	0	18	"	1¾
18	"	0	19	"	3¼
19	"	0	20	"	5½
20	loss	¼	21	"	6½
21	"	½	22	"	1½
22	"	½	23	"	1½
23	gain	¾	24	"	4
24	"	1	25	"	2½
25	"	1¼	26	"	2½
26	"	1	27	"	3½
27	"	0			

The last of May the poplar bloomed; about June 10th the clover came on; and about July 4th basswood bloomed full, but owing to a cold east wind I lost about half of it. The colony swarmed, and thus curtailed my record. I labored under some disadvantages, you will see.

G. W. MCGUIRE.

Dark Ridge, N. C., Feb. 20, 1893.

Transferring with Crooked Combs.

On page 332, Mr. Gardiner asks how to transfer bees from colonies having crooked combs, and suggests placing the new hive above the old one and waiting until the queen takes possession of the new hive.

It is much better to put the new hive below the old one, as bees have a tendency to establish the brood-nest close to the entrance, and store their honey above. But even then, the process is rather slow. On the other hand, cutting and straightening

crooked combs is a very disagreeable operation, and cannot be done without destroying quite an amount of brood. Here is a better way:

Drive most of the bees and the queen in the new hive (the point here is to be sure to have the queen in the new hive), and set the old hive on the new, with a queen-excluder between the two. Twenty-one days later all the brood in the old hive will be hatched, and you can then cut and straighten the old combs without losing any brood.

As the two hives are generally of different size, it is not very easy to fit them together bee-tight. The best is to secure a board as large as the larger hive, cut in the center a hole somewhat smaller than the other hive, and put that board between the two. The queen-excluding zinc is to be tacked over the hole.

This process was discovered in Europe, though I do not know by whom, but soon after the movable combs came into use, and is much better than any other known.

Knoxville, Tenn. ADRIAN GETAZ.

Bees Gathering Sawdust.

On March 2nd the sun shone brightly, and the weather turned quite warm. I was working at the saw-mill close by my apiary about 8 o'clock, when the bees commenced to "nose around" the sawdust, and in a few minutes the dust pile was completely swarming with bees. All hands stopped to watch the bees, to see what they were doing. Well, they just put one in mind of a lot of little pigs rolling and tumbling in the dust, and packing the finer portions in their baskets.

On going to the apiary, I saw them going in at the entrances like shot, with large loads of sawdust. The dust was from sycamore, elm and cottonwood logs. From the color I should judge they selected the sycamore dust. Before night the wind changed to the north, and turned cold, and this morning finds the cold wave quite sharp.

A. L. WILLIAMS.

Lawrence, Kans., March 4, 1893.

P. S.—To-day, March 10th, I find a nice pile of sawdust in front of each hive.

Dampness and Bee-Diarrhea.

I read the letter on page 339, from Austin Reynolds to Dr. Miller, saying his bees all have the diarrhea. The cause of it, I think, was dampness in his cellar. I am not as old a bee-man as Dr. Miller, but I don't think a flight for Mr. Reynold's bees will do any good. Drying out the cellar is the right thing to do.

On March 3, 1892, I bought a lot of bees in box-hives, and transferred them when fruit-trees were in bloom. The bottom-boards were oak, and some of them were green, just from the saw-mill. One of them was not dry when I painted it. In three or four days the bees were affected with the diarrhea, spotting the hives badly. I thought they would soon get over it, being in the yard where the sun could shine on them, but in one week they were all dead. In looking for the cause, I could rub off the paint and mold from the bottom-board with my finger; the wood under the paint was black and sour. This was about April 1, 1892, and an extra strong colony. All the others were, at that time, in good condition.

If the above was not the cause, please tell me what it was. R. H. HUMPHRIES.

Morganfield, Ky.

Convention Notices.

UTAH.—The semi-annual meeting of the Utah Bee-Keepers' Association will be held in Salt Lake City, Utah, on April 10, 11, 1893. All interested are cordially invited.

View, Utah. R. T. Rhees, Sec.

PENNSYLVANIA.—The Susquehanna Co. Bee-Keepers' Association will hold their 12th semi-annual meeting at the Tarbell House in Montrose, Pa., on Thursday, May 4, 1893. All are invited. H. M. Seeley, Sec.

Harford, Pa.

NEW YORK.—The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.

H. C. FARNUM, Pres., Transit Bridge, N. Y.

COLORADO.—The adjourned meeting of the Colorado State Bee-Keepers' Association will be held in the Charles Block, corner 15th and Curtis Streets, Denver, Colo., on April 18, 1893. Business important to all honey-producers will come before the meeting.

Littleton, Colo. H. KNIGHT, Sec.

KANSAS.—The Kansas State Bee-Keepers' Association will hold their annual convention at Ottawa, Kansas, on April 6 and 7, 1893. All bee-keepers are cordially invited to attend this convention, and make it one of the most interesting ever known. There will be a good programme. Bring something to exhibit. L. WAYMAN, Sec.

Chanute, Kans.

The World's Fair Women "Souvenir" is the daintiest and prettiest book issued in connection with the World's Fair. It is by Josephine D. Hill—a noted society lady of the West—and contains superb full-page portraits and sketches of 31 of the World's Fair women and wives of prominent officials connected with the great Fair. It is printed on enameled paper, with half-tone engravings, bound in leatherette. We will send it postpaid for 75 cents, or give it for *two* new subscribers to the BEE JOURNAL at $1.00 each.

The Washington Convention Report is now in pamphlet form, and we shall be pleased to mail a copy to any one desiring it, for 25 cents. It contains 32 pages. As only a very limited number were printed, you should order promptly if you want a copy.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, April 1st, 1893 :

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

CINCINNATI, OHIO.—There is a fair demand for extracted honey at 6@8c. There is no choice comb honey on our market, and prices are nominal at 14@16c. for best white. Beeswax—Demand good, at 24@27c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

ALBANY, N. Y.—Honey market quiet at following prices : White comb, 14@15@16c ; mixed, 12@13c ; dark, 10@11c. Extracted, white, 8@8½c ; mixed, 7@7½c ; dark, 6½@7c.
Beeswax, 26@30c. H. R. W.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line**, for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

FOR SALE—A Circular Saw, hand or foot power. O. C. BROWN,
14A2t Council Bluffs, Iowa.

WANTED—To correspond with some real good, nice, beautiful young lady or widow. THOS. BUTLER, Floyd, Hunt Co., Tex.

WANTED—Foot-Power Lathe for metal ; Portable Forge and Anvil. I will exchange Honey, Bees, Queens, or good Bicycle.
14Atf J. A. GREEN, Ottawa, Ill.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.
F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN.
28 & 30 West Broadway.

San Francisco, Calif.
SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.
J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.
HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.
H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.
CHAS. DADANT & SON.

Cincinnati, Ohio.
C. F. MUTH & SON, cor. Freeman & Central avs.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.
April 6, 7.—Kansas State, at Ottawa, Kans.
L. Wayman, Sec., Chanute, Kans.

Apr. 10, 11.—Utah, at Salt Lake City, Utah.
R. T. Rhees, Sec., View, Utah.

April 18.—Colorado State, at Denver, Colo.
H. Knight Sec., Littleton, Colo.

April 20.—S. W. Wisconsin, at Wauzeka, Wis.
N. E. France, Pres., Platteville, Wis.

May 4.—Susquehanna Co., at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y

May 18, 19.—South Texas, at Wharton, Tex.
T. H. Mullin, Sec., Eagle Lake, Tex.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

"Bees and Honey"—page 421.

Advertisements.

GOLDEN ITALIAN QUEENS

For sale in April for $1.00. Full Colonies for $6.50. The **Best Spraying Pump** in the market for the price.

A Full Line of Supplies.

Remember we are the Largest Manufacturers in the West. Send for Circular.

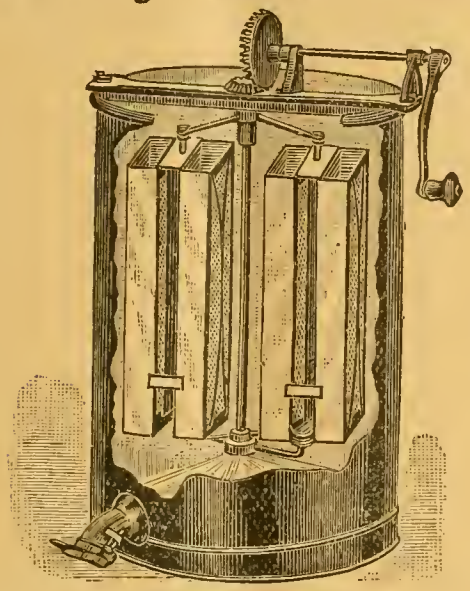
WM. H. BRIGHT, Mazeppa, Minn.

14A8t *Mention the American Bee Journal.*

Something Entirely New.

ONLY PERFECT AUTOMATIC

Honey-Extractor



BEST of Testimonials can be given as to the perfect working of the above Honey-Extractor. Simple in Construction. **Without Band or Chain.** Price moderate. We are prepared to ship from the United States. The 4-frame Langstroth, can diameter 24 inches; 8-frame 27 inches.

Goold, Shapley & Muir Co., Ltd.

BRANTFORD, CANADA.

Patent for above. Either State or larger territory may be purchased from us.

Manufacturers and Dealers in All Kinds of

Bee-Keepers' Supplies.

Texas Reared Queens,

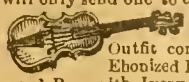
BRED for Business and Beauty. I make Queen-Breeding a specialty. Either 3 or 5 Banded—March, April and May—Untested, $1.00 ; Tested, $1.50. After May, Untested, 75 cents ; Tested, $1.00. **Imported Queens** reasonable. Send for Price-List—Free. Satisfaction guaranteed. Remit by P. O. Money Order or Registered Letter. **W. H. WHITE,**

13A4t DEPORT, Lamar Co., TEX.

WHEN ANSWERING THIS ADVERTISEMENT, MENTION THIS JOURNAL.

The Cheapest Music House in the World.

For the purpose of introducing our goods throughout the Country, and to advertise our House, we will for a short time send any person one of the following instruments on receipt of cash to pay for Boxing and Shipping. It is expected that every person receiving one of these Instruments will show it and inform others where he bought it. We will only send one to each person. We will send a



$10 Ole Bull Violin for $2.

Outfit consists of Violin, Italian Strings, Maple Bridge, Ebonized Pegs and Tail-piece, inlaid with Pearl, Snakewood Bow with Ivory Trimmings, Music Book of Instructions, containing over eighty-five pieces of Choice and Latest Selections of Music, all packed in a neat strong Case, $2.00.

$10 George Christy Banjo, $3.

Maple Shell, Sheepskin Head, Silver-plated Rim Metal Head Fastenings, Italian Strings, Book of Instructions. All in neat Case, $3.

$10 Celebrated Aimee Guiter, $3.

Maple, imitation of Rosewood, Ebony trimmings, Patent Head, Pearl inlaid Sound Hole and Edge, Italian Strings, Music Book In strong Case, $3.

Send Money by Postal Note. Send Stamp for Catalogue.

L. W. LINCOLN & CO., Chicago, Ill.

Mention the American Bee Journal.

TORONTO ISLAND ! ! ! FOR SALE,

AS early as the season admits, Pure-Bred **Queens from Doolittle's 5-Banded** strain; also, **Manum's Strain,** mated to Pure Yellow Drones on this Island. Our location enables us to warrant Untested Queens **purely mated.** This is no experiment. Send for Descriptive Circular of the Island, etc.

Untested Queens, $1.00. Tested, $1.50.

Special Rates on large orders.

J. McARTHUR & CO.,

14A12t 881 Yonge St., TORONTO, ONT.

Mention the American Bee Journal.

—MY FINE—

ITALIAN QUEENS

Will be Ready for Shipment April 20th,

& continue until Nov. 1st.

My Bees are EQUAL to any in the Land. All Queens bred from Full Colonies. Prices:—Untested, $1.00; six, $5.00; 12, $10.00. Tested, $1.50; six for $8.00; twelve for $15.00.

Remember, I **warrant all** Queens shipped by me to any point in U. S., and to be alive at destination; if dead, return Queen and I will send one in place. **Reference**—Any first class business man in Lenawee Co. Address all Orders to,

C. F. BECKEY,

14A30 MANITOU BEACH, Lenawee Co., MICH.

Mention the American Bee Journal.

ITALIAN QUEENS.

BRED for Business, Gentleness and Beauty. Untested, 80c. each; three, $2.25; six, $4.00; twelve, $7.50. Tested, $1.25. Selected tested, yellow to the tips, breeder, $1.50. Will commence shipping April 15th. Safe arrival guaranteed.

G. E. DAWSON,

CARLISLE, Lonoke Co., ARK.

Mention the American Bee Journal.

DR. WINCHELL'S
TEETHING SYRUP

Is the best medicine for all diseases incident to children. It regulates the bowels; assists dentition; cures diarrhœa and dysentery in the worst forms; cures canker sore throat; is a certain preventive of diphtheria; quiets and soothes all pain, invigorates the stomach and bowels; corrects all acidity, will cure griping in the bowels and wind colic. Do not fatigue yourself and child with sleepless nights, when it is within your reach to cure your child and save your own strength.

Sold by all druggists. Prepared only by the
EMMERT PROPRIETARY CO., CHICAGO.

2E20t *Mention the American Bee Journal*

---

14 RAILROADS

To carry the Goods we manufacture, to all parts of the country. Can cut any hive ordered. Langstroth improved Simplicity a specialty. All kinds of Bee-Supplies. Bees and Queens. Light and dark colored Ferrets. Send for Price-List.

R. E. HARBAUGH,
6E5t 25th & Clay Sts., ST. JOSEPH, MO.
Mention the American Bee Journal.

HATCH CHICKENS BY STEAM
WITH THE IMPROVED
EXCELSIOR INCUBATOR.

Lowest priced First class Hatcher made.

Thousands in Successful Operation.
SIMPLE, PERFECT, and SELF-REGULATING.
Guaranteed to hatch a **larger percentage** of fertile eggs, at **less cost** than any other Incubator. Send 6c. for Illus. Catalog. Circulars Free.

GEO. H. STAHL, Pat. & Sole Mfr., **Quincy, Ill.**

2E9t *Mention the American Bee Journal.*

—THE—
Fruit-Growers' Journal

Is a recognized authority on
Practical fruit-growing,
Market-gardening, and every
Branch of the business as connected
With the fruit and vegetable industry.
Its columns contain articles from the
BEST INFORMED GROWERS
In this country.

It is a six-column eight-page, all-around fruit-growers' journal. It is published semi-monthly at $1.00 per year. Send for free sample copy.

A. M. DuBOIS,
Editor and Publisher,
4Etf **COBDEN, ILLS.**

PILES AND SKIN DISEASES IN ALL Forms & Stages

Positively Cured by HERMIT SALVE.
Gives **Instant Relief**
Large $1 box will Stop your Pain & Heal you.
Address, HERMIT REMEDY CO., 199 Randolph St., Chicago.
2E20t *Mention the American Bee Journal.*

BEE-KEEPERS' HEAD-QUARTERS

Cheap Freight and Quick Transportation.

BEING located at the most central point of railroad and express companies enables us to furnish bee-keepers with Supplies at less cost to themselves than any house in the country. We furnish everything needed in the apiary, as low as the lowest and as good as the best.

COOK'S COMPLETE HIVE

Combines all the most approved methods of hive-making. It is a complete arrangement for out-door wintering and is equally well adapted to producing Comb and Extracted Honey. Send for Illustrated Circular and Price-List.

J. H. M. COOK,
(Successor to King & Aspinwall),
78 Barclay Street, NEW YORK CITY.
12E5t *Mention the American Bee Journal.*

CHICAGO BEE-KEEPERS' SUPPLY CO.

Golden Queens. | Wholesale and Retail Dealers in **Bee-Hives, Sections, & Gen'l Supplies for Bee-Keepers** at Bottom Prices. Write for Circular to— **J. B. KLINE, Sec'y,** OFFICE: **Topeka, Kan.** 12 & 14 S. Canal St., **Chicago, Ills.** Mention this Journal | Italian Bees.

Eastern Supply House.

We furnish everything used in the apiary and at bottom prices. Illustrated Circular free.
I. J. STRINGHAM, 92 Barclay St., N. Y.
6E10t *Mention the American Bee Journal.*

---

10 DAYS FREE TRIAL

in your own home. First class Sewing Machines shipped anywhere to anyone at wholesale prices. All latest improvements. Standard Singer Machines, $9.50 to $15.50 $50 Arlington Sewing Machine for $19.50 $60 Kenwood Sewing Machine for $23.50 Warranted for five years. Complete set of attachments FREE Send for catalogue

CASH BUYERS' UNION, 160 W. Van Buren St. B 118 Chicago.
2E16t *Mention the American Bee Journal.*

LEATHER = COLORED
—HONEY-QUEENS—

FROM Imported Mother, warranted purely mated, after June 10th, at $1.00 each; six at one time, $5.00. Untested Queens, 75 cents each. Address, **C. A. BUNCH,**
10E10t NYE, Marshall Co., IND.

Don't Monkey with CROSS BEES
or Poor Goods. Send for our Catalogue of **Bees, Queens and B.-Keepers' Supplies.**
JOHN NEBEL & SON,
14Ett HIGH HILL, MO.

READERS

Of this Journal who write to any of our advertisers, either in ordering, or asking about the Goods offered, will please state that they saw the Advertisement in this paper.

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., APRIL 13, 1893. NO. 15.

The Weather the past few days has been warm and pleasant, and the bees have been improving it well. It now (April 8th) looks like an early spring.

Bingham & Hetherington's Circular will be found on pages 476 and 477 of this number of the BEE JOURNAL. It tells all about their excellent Bee-Smokers and Uncapping Knife. They didn't want you to miss seeing their Circular, hence this editorial notice.

The St. Joseph Apiary Co., of St. Joseph, Mo., have purchased the business conducted by R. E. Harbaugh, of that place, whose death was announced last week. They now ask Mr. Harbaugh's customers to patronize them, which invitation no doubt will be accepted.

Miss Amanda Atchley, the 19-years-old daughter of Mrs. Jennie Atchley, has just taken charge of the bee-department in *Uncle Sam's Live Stock Journal*, a Kansas farm monthly. She makes a good start in the March number, and says that she will "endeavor to talk upon practical, profitable and pleasant ways to manage bees." Success to Miss Amanda, as well as to her "Ma," is our wish.

Gleanings for April 1st is a magnificent number—but, then, it's just like every issue of that journal; except that the April 1st copy contains two very much appreciated editorial references to the BEE JOURNAL. The following is one:

G. W. York is making the old reliable AMERICAN BEE JOURNAL fairly boom. Every page shows that he is putting a good deal of hard work on it, and we hope that his subscription-list may roll up strong; for we have always noticed that, when any of our rival publications are booming well, it helps boost along *Gleanings;* so you see we are interested from a selfish point of view.

Why is it that editors of publications in other lines fail to see this? They look upon a successful rival as dangerous to their own success, and then write more like an idiot than a responsible being. But perhaps a point should be made here: An editor who takes no interest in his own publication but to get out copies of his paper filled with "stuffing," will almost surely suffer if there is an energetic rival in the field. He who is jealous of a rival, confesses the weakness of his own efforts in the journalistic line, and he had better step down and out. Such kind of editors are not wanted, and sooner or later they are *obliged* to step down and out.

We wish to thank Bro. Root most sincerely for the kind hope expressed in the first paragraph above. We see no reason why rival publications shouldn't work together in harmony, and their editors be the best of friends. Only by so doing can they all best fulfill their object or mission in life. Truly, the success of one *should* but make more easy and certain the prosperity of *all*. We have often, during the past year, been more than delighted to note the cordial and friendly relations existing among all the periodicals devoted to the cause of bee-keeping. We trust such a condition may long continue.

The other editorial refers to the biographi-

cal sketch and portrait of Miss Emma Wilson, which we published on page 361. Here is what Bro. Root says about it:

A very interesting biographical sketch of a comparatively new writer on bee-lore, Miss Emma Wilson, appears in the AMERICAN BEE JOURNAL. It will be remembered that Miss Wilson has written considerably for the Ladies' Conversazione of *Gleanings;* and her pithy, brief articles, have, as a general thing, contained a good deal of value, not only to the bee-keepers of her own sex, but to those of the sterner sort. We have been thinking for some little time back that our readers would like to see a picture of her, but Bro. York has got ahead of us. Well, we are rather glad of it, because he has done it so well.

The Apiary for April.—Mr. A. H. Duff, in the March *American Agriculturist* gives the following advice to bee-keepers for the month of April:

To secure the best results in honey crops, careful management is required during this month. All weak colonies should be united with others. It will not pay to start with mere handfuls of bees, as the most valuable part of the season will be consumed in building up such into fair colonies. After uniting until all are fair colonies, they should be stimulated by feeding. By this means, only, can we get the best results. The crop of honey depends upon the force of bees on hand when the season opens. This kind of feeding is merely giving each colony, daily, a small quantity of syrup or honey. Queens that are not defective, when fed thus, will produce brood to the utmost capacity.

If colonies are nearly or quite destitute of honey, this stimulative feeding should not be depended upon for their entire maintenance. They should have besides 10 or 12 pounds of sealed honey. Feeding should be continued regularly except during the intervals when bees are gathering honey from the fields.

Until the main honey-flow sets in, great care should be exercised not to feed so heavily as to have any of our prepared food enter the surplus honey-receptacles that it may be placed upon the market for consumption. Many inexperienced persons seem to think that this feeding of bees is for the purpose of having them store up immense quantities of sugar syrup, which is to be put upon the market as honey. This is not the fact, by any means. Every apiarist well knows that this would be a great injury to his trade. Hence the all-important line to be drawn between feeding for the production of life and brood-rearing, and feeding for "honey."

Contracting the brood-chamber will be much help in building up colonies during April. Division-boards may be used to adjust the hive to accommodate the amount of bees therein. This economizes heat, and more space will be occupied by brood in managing thus.

New Bee-Hives are still being patented, as is shown by the periodical issues of the patent-office records at Washington. One invented recently by Messrs. J. D. Hawkins and F. M. Ray, of Texas, makes the following "claims:"

1. In a bee-hive, interchangeable sections containing comb-frames, each having bee-entrances, and a bottom provided with bee-passages, in combination with removable supplemental cover composed of two parts, and an intermediate slide or valve having apertures or passages adapted to register or align with apertures or passages in said parts of said cover, said supplemental cover being arranged between the sections, substantially as set forth.

2. In a bee-hive, interchangeable sections containing comb-frames, each having bee-entrances, and a raised bottom provided with bee-passages, in combination with a removable supplemental cover composed of two parts, one resting in the lower section upon the comb-frames, and the other part in the upper section just below its raised bottom, and the apertured slide or valve sliding in a slot or seat between said parts of said cover, substantially as set forth.

3. The bee-hive, consisting of the separable sections containing comb-frames, each having a raised bottom provided with bee-passages, one side forming a door, and having a bee-alighting platform and entrances, and a removable supplemental cover composed of two parts, one part resting in the lower section upon the comb-frames, and the other part in the upper section just below its raised bottom, and the apertured slide seated intermediately of the parts of said cover, and adapted for operation, substantially as specified.

Death, with relentless on-going, has visited the homes of two of our subscribers, and took with him two loving wives and devoted mothers. Mrs. Atchley writes as follows about one of them:

Dr. George Mott, of Spurger, Tex., wrote on March 2, 1893, that on Feb. 10th he was compelled to say good-bye to his dear wife, who left an infant babe 3⅛ months old, and a little girl 2 years old.

Weep not, Bro. Mott, there is a day not far distant when all good Christian people will meet their loved ones beyond the river, where the word "good-bye" is never heard. May God's richest blessings and loving care ever rest upon the motherless babes and the bereaved father, is the prayer of a friend. JENNIE ATCHLEY.

The other was Mrs. D. C. Wilson, of Viola, Iowa. Mr. W. wrote as follows about her death, on March 7th:

I have to record the loss of my wife—my bosom friend and counselor in all things. We had walked down life's road together for almost 46 years, passing through some

very hard and trying places, yet we stood together without a murmur. She was an invalid for the last two years, suffering from nervous prostration, finally ending with brain trouble, which only lasted three weeks, when she quietly passed away, leaving myself and two married daughters to mourn her loss, whilst she joins a son and daughter in Heaven. D. C. WILSON.

We can conceive of nothing more sad than the loss of a life companion and a mother of children who are left to mourn a loss that can never be replaced. May our bereaved brothers, in their affliction, lean upon Him who alone can comfort the sorrowing heart, and trust implicitly for that help and strength that comes from One who has endured all things for our sakes. The BEE JOURNAL sympathizes most sincerely with our sorrow-stricken brethren, and trusts that they may so live that there may some day be a blessed reunion in "the home over there."

"Bees and Honey"—page 453.

Exhibits at Fairs.—Mr. J. W. Tefft, who seems to have a good deal to say about bee-keeping, in the *American Farmer*, comments thus upon a question about exhibits of honey and apiarian implements at Fairs:

Secretary Jas. A. Stone, of the Illinois Bee-Keepers' Association, asks in the AMERICAN BEE JOURNAL, "How can exhibits of honey and apiarian appliances at Fairs be made to increase the interest in bee-keeping, and promote the industry?"

The answer is by separating the exhibits thus: "The Honey-Producers' Department." "The Queen-Breeders' Department." "The Supply Manufacturer's Department."

Queen-breeders and manufacturers should not exhibit honey at all, for by so doing they discourage the honey-producers to such an extent, that at the late New York State Fair there was but one who had the courage to exhibit. But the supply dealer was there in full force, with his honey products and his implements. One supply dealer took about $80 in premiums, and $10 of it was on wax, $20 on extracted honey, $20 on comb, and $20 on bees. They were all inferior, and not entitled to third prize. The judge was a manufacturer of bee-implements.

Honey is a branch in bee-keeping of itself, so is queen-rearing and manufacturing apiarian implements. All branches of apiculture derive their living from the honey-producer, but the queen-breeder and manufacturer are driving him to the wall by exhibting honey they never produced, but bought to exhibit for a prize. It is all wrong. Let the honey-producer alone in this matter of the exhibition of honey at State and County Fairs, or you "kill the goose that lays the golden egg."

We quite agree with Mr. Tefft, that it is unfair for supply dealers to purchase honey for exhibits at Fairs, to compete for prizes or premiums with that actually produced by the other exhibitors. We doubt very much if it is done to any great extent—surely, it would not be considered just. We cannot imagine a farmer purchasing from another a pumpkin or squash to place on exhibition at even the smallest country Fair, and claiming that it was from his own growing! We have a better opinion of supply dealers, than to think they would purchase honey for exhibition purposes.

On the other hand, dealers in bee-appliances, who also produce honey, certainly have a *right* to exhibit samples of their honey, if they so choose, in addition to making a showing of supplies for the apiary. We see nothing unfair in that.

We know nothing about the apiarian exhibit in New York, mentioned by Mr. Tefft, but doubtless some of our readers do, who live there.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

April 18.—Colorado State, at Denver, Colo.
H. Knight Sec., Littleton, Colo.

April 20.—S. W. Wisconsin, at Wauzeka, Wis.
N. E. France, Pres., Platteville, Wis

May 2.—Connecticut, at Hartford, Conn.
Mrs. W. E. Riley, Sec., Waterbury, Conn.

May 4.—Susquehanna Co., at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y

May 18, 19.—South Texas, at Wharton, Tex.
T. H. Mullin, Sec., Eagle Lake, Tex.

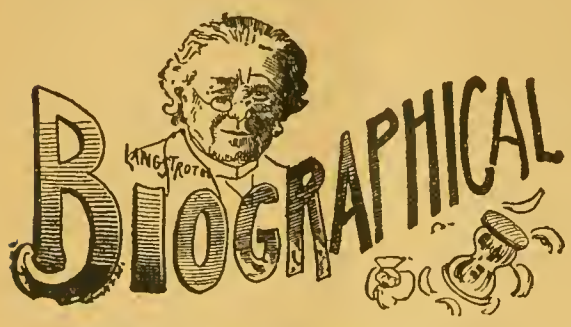
☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.



MRS. L. HARRISON.

The subject of our sketch this week—Mrs. L. Harrison, of Peoria, Ills.—is perhaps the best known among the women who write about bees. Her name has been familiar to all our readers for years, as well as to the thousands upon thousands who have been permitted to read her valuable apiarian writings in both the *Orange Judd Farmer* and the *Prairie Farmer*—excellent agricultural periodicals published in Chicago.

Mrs. Harrison has for years answered questions for our department of "Queries and Replies," besides contributing an occasional article or letter. Her pen productions are entirely original in style, always couched in vigorous language, and often contain an amusing reference, which, taken all together, make her an intensely interesting writer.

Through the kindness of the *Orange Judd Farmer*, we present herewith Mrs. Harrison's picture, and from the "Portrait and Biographical Album of Peoria County, Illinois," we have taken the following sketch of her life:

Mrs. L. Harrison is deserving of special mention on account of her eminent success as a bee-keeper and a writer on the management of the honey-producing insects. Since 1876 she has edited the bee-department of the *Prairie Farmer*, being likewise a member of the staff of a British apicultural journal, and for the past four years has been the apiarian editress of the *Orange Judd Farmer*. "A B C of Bee-Culture," has this to say of her:

"Among women no bee-keeper is more widely known than Mrs. Lucinda Harrison. Born in Coshocton county, Ohio, on Nov. 21, 1831. She came in 1836 to Peoria county, Illinois, her parents, Alpheus Richardson and wife, being pioneer settlers. Public schools were at that time undeveloped, and educational advantages few, but her parents gave her the best to be had in private schools. Her brother Sanford was a member of the first class which was graduated from Knox College, and she then spent a year at an academy taught by him at Granville, Ills.

"She taught school from time to time until 1855, when she married Robert Dodds, a prosperous farmer of Woodford county, who died two years later, leaving her a widow at twenty-five. She was married to her present husband on July 4, 1866."

Mrs. Harrison thus describes her entrance into the ranks of apiarists:

"In 1871, while perusing the reports of the Department of Agriculture, I came across a flowery essay on bee-culture from the graceful pen of Mrs. Ellen S. Tupper. I caught the bee-fever so badly that I could hardly survive until the spring, when I purchased two colonies of Italians from the late Adam Grimm, of Jefferson, Wis. The bees were in eight-frame Langstroth hives, and we still continue to use hives exactly similar to those then purchased. I bought the bees without my husband's knowledge, knowing full well that he would forbid me if he knew it, and many were the curtain lectures I received for purchasing such troublesome stock. One reason for his hostility was that I kept continually pulling the hives to pieces to see what the bees were at, and kept them on the warpath.

"Our home is on three city lots, and at the time I commenced bee-keeping our trees and vines were just coming into bearing, and Mr. Harrison enjoyed very much being out among his pets, and occasionally had an escort of scolding bees.

"Meeting with opposition made me all the more determined to succeed. I never wavered in my fixed determination to know all there was to be known about honey-bees, and I was too inquisitive, prying into their domestic relations, which made them so very irritable."

It is credited to Mrs. Harrison that she has written more than any woman in the world on the subject of bee-keeping, as opening up a new industry for women. Her writings have been extensively published not only in the United States, but in Great Britain and on the Continent, as well as in Australia and the South Sea Islands. Her articles

have been translated in French, German and Italian.

Mrs. Harrison is a strong, vigorous, and advanced thinker, and is a believer in the rights and privileges of women. Her contributions in literature embrace not only articles on bee-culture, but likewise on horticulture. Her first writings appeared in the Germantown *Telegraph*, of Philadelphia, and Coleman's *Rural World*, of St. Louis.

The perseverance of Mrs. Harrison was rewarded, her husband's opposition ceased, and he himself became interested in the bees, helping to care for them, declaring that he believed that it would add ten years to his life. For a number of years her apiary has contained about

100 colonies. She is prevented from doing as much as she otherwise would, by ill-health and family cares, for, although childless, she has been a mother to several orphan children.

She is best known as a writer, her many contributions to the press being marked with vigor and originality, with a blunt candor that assures one of her sincerity. She credits bee-keeping with making her life more enjoyable by opening up a new world, and making her more observing of plants and flowers, with which, we may add, her home is quite surrounded.

Mrs. Harrison is plain and unassuming in her manners, kindly and charitable. She says, "The way to be happy, is to be usefully employed." She has great energy and perseverance, with large executive ability, and notwithstanding her delicate health, accomplishes much. She has written her name among the noble and useful ladies of our land, who are a blessing to the community in which they live, and an honor to their sex.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Sawdust for Packing Hives.

Is sawdust as good as chaff for packing double-walled hives?

Nenno, Wis. JOS. GUENTHER.

ANSWER—The testimony seems hardly so favorable to sawdust, but some report success with it. It must, however, be thoroughly dry.

Putting Bees Out of the Cellar.

1. What kind of a day should it be to put bees out of the cellar?

2. What time of day should it be done?

Conroy, Iowa. JOHN A. WARD.

ANSWER—1. A still, sunshiny day, with the mercury at 50°, or more.

2. Early enough in the day so they will have plenty of time for a good flight; any time in the forenoon, after it is warm enough.

Flight Temperature—Dead Bees.

As I am a beginner, I would like to make a few inquiries:

1. At what degree of temperature will it be safe to let bees out for a flight; and would it be safe to let them out with some snow on the ground, if it be warm enough in any part of the day?

2. I have one colony in a loose-bottom hive, and I removed it to-day and took out a quart of dead bees. This was a very strong colony. Will the loss be much of an injury to the colony?

3. The rest of my hives all have tight bottoms; can I do any more than to clear the entrance as best I can of the

dead bees? I know there are a good many in the others. I think I shall do away with the tight bottom-board hives.

E. H. HALLETT.

St. Johnsbury Center, Vt.

ANSWERS.—1. The exact degree of temperature is not the only, and perhaps not the best test as to the time to have bees out for a flight. At 50° it is generally safe, but there is a big difference between a cloudy, windy day and a still, sunshiny day. With no wind and bright sunshine, 50° or higher is quite safe. With snow on the ground, it would be safer to have it warmer, but a little old, well-packed snow need not be much considered.

2. If that quart of dead bees constituted the entire loss for the winter, it might not be more than the bees that ought to die from old age in a very strong colony. Still, that is a pretty heavy loss.

3. With a piece of strap-iron, you can rake out all the dead bees, or nearly so, by taking time enough.

Thumb-Screws and their Use.

Please to insert this in the question-box for next issue, if possible.

I want to lay aside the follower board and wedge for pressing the sections in supers, and use the thumb-screws in place of them. Would I be infringing on any patent? Are any of your correspondents using them?

SUBSCRIBER.

ANSWER—As we have already explained, it is impossible to get a question into the question-box to be regularly answered by the corps of experts, and have the answer appear within a week. It generally requires a number of weeks. In the present instance, however, it is hardly necessary to submit the question to them, for we feel pretty sure there is no patent on thumb-screws. Although we do not positively know, we presume thumb-screws, in some shape, are in use by some of our correspondents.

Removing Dead Bees from Combs, Etc.

1. Which is the easiest way of getting bees out of cells where they have died in the hive?

2. Is honey good to feed back to bees, taken out of a hive where the bees have died from diarrhea, which is capped over, or not capped over? If not, what is best to do with it?

3. The combs in the hives where bees have died are very dirty, and smell badly; will they be of any use? Can they be cleansed for future use, or would I better render them into wax?

Bethesda, Ont. D. W. HEISE.

ANSWER—1. If your time is worth nothing, pull them out with a crochet-hook. Some have had success letting mice dig them out. Perhaps the best plan is to leave them for the bees to get out. It may help the bees to have the combs pretty well dried.

2. The honey is all right to feed.

3. If there is nothing wrong with the combs except being dirty, don't think of melting them up. You might scrape off some of the worst daubed parts, then give the frames, one or two at a time, to strong colonies, and you will be surprised to see what a nice job they will make cleaning them up.

Keep the Cellar Dark.

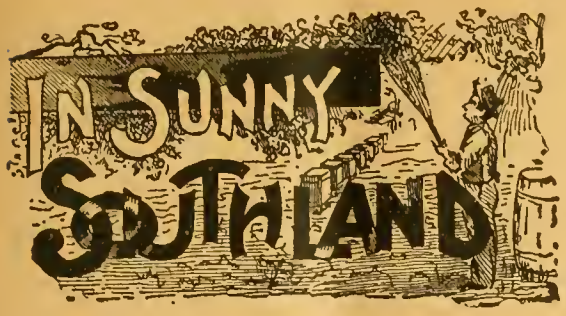
I have 18 colonies of bees in a cellar, nice and dry, with two windows at the east end, so as to make the cellar light. The hives are all covered with quilts. Some of the bees come out and go to the window and die. Do you think that more than would naturally die, would go to the window and I thereby suffer loss?

J. B. RESSLER.

ANSWER—If everything is just right, and bees in best condition, light may make no difference; but it is safe to say that at least some of the time all the conditions will not be most favorable, hence it is equally safe to say that you will lessen your loss of bees by keeping them in darkness.

Alley's Queen-Rearing book, or "Thirty Years Among the Bees," gives the result of over a quarter-century's experience in rearing queen-bees, and describing the practical, every-day work. By Henry Alley. It contains an "Appendix," showing the improvements made in queen-rearing the last four years. Very latest work of the kind. Nearly 100 pages, with illustrations. Price, postpaid, 50 cents; or clubbed with BEE JOURNAL one year, for $1.30.

Read our great offer on page 453.



CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

In-Breeding of Bees.

Mrs. Atchley, will you please tell us what you know of in-breeding of bees? What difference it makes, and how long does it take to tell the difference, if any?

Sage, Calif. C. S. LEWIS.

Friend Lewis, you have struck me at a weak place, and I must say I don't know. Whether God intended that in-breeding of the insect tribes should or should not make a difference, is a point I am stalled on. I do *know* that it makes a vast difference in the animal creation, and that retrograding begins just as soon as in-breeding starts. It is said that it holds good with bees, but when these sayings get started they go ahead, right or wrong. I always try to keep down in-breeding as far as possible, as there might be something in it. I know of about 30 colonies of black bees in box-hives, that have been kept for 15 years, at least, 10 miles from any other bees, and they started from one colony; and they are the most hardy, best honey gatherers, and do the best of any bees of their race that I know of. So you see I say I don't know.

Some Hints on Transferring Bees.

I am pleased to see the ladies taking up the bee-question, and proud to see that at least some of them are getting to the front, ahead of many of the sterner sex. Being myself a bee-keeper for the last 20 years, and having spoken through the BEE JOURNAL many times before, giving and taking good, solid blows, but always good naturedly, and to the end, that we may all be benefited, I would like to make a few suggestions, or possibly corrections, about Lesson No. 1, of "Our School in Bee-Keeping," about transferring bees, on page 204.

1st. I would not use a dipper to remove the bees to the new hive, as it must kill or maim some of them, and make the colony cross. I take a dish-pan and turkey wing, and brush the bees into the pan, then pour them in the new hive, making a more complete transfer, and have them out of the way.

2nd. I would not lay the combs on the frames to cut and fit, but would lay the combs on the board, then lay the frame on the comb, and cut with a sharp, thin knife, on the inside of the frame, and thereby have a smooth, exact-fitting comb, that will just go into the frame.

Remove the trimmings, then place two strips of wood for cleats, across the comb, extending just above and below the frame. Place the other board on top, and turn all over, remove the upper board, and place two more cleats opposite those already there, and in place of nailing them to the frame, tie the upper and lower ends of the cleats with twine, and place all in the new hive.

When they have been there a few days, gently lift the frames out, one at a time, cut the upper string, and the cleats will be easily removed, without prying or jarring, as would be the case if nailed, and the brood under the cleats will hatch out, or be removed after the cleats are taken off.

With kind intentions, and a desire to see the A B C class prosper, I am, their friend. C. F. GREENING.

Orange Park, Fla.

Age When Virgin Queens Mate.

On page 916 of *Gleanings* for Dec. 15, 1892, Mr. Wilder Graham says that a queen must mate in 21 days, or she never mates. Will Mr. Graham please excuse me, when I say that he is wrong again? Now just listen, and I will show where he is mistaken, and I will tell just when a queen is past being impregnated.

First I will say, that a good many years ago, when I noticed a good deal said on this subject, it put me to experimenting. I have reared queens in November, kept them till the next March, and had them mate and lay all right; and it was not only one queen, or two, but, I think it will be safe to say I have had a hundred, so treated; and all of them, with a few exceptions, have proved to winter over as virgins, and then mate in the spring, and be just as good as any of the rest. These queens were never allowed to fly at all, as an excluder was

placed over their hives before they hatched, and remained there till spring.

Right here I will relate a lesson that I learned in these operations, that I probably never would have learned any other way. Now listen closely.

I noticed that every single queen that became stimulated for egg-laying never became impregnated, but was always a drone-layer; and every one that retained her virgin size, and did not partake of any food to stimulate her, went right through, and became mated in the spring, and laid right off and made a good queen.

Some virgins became stimulated for egg-laying much younger than others; and I now see that whenever *any* virgin queen is brought up and stimulated by the bees, or by partaking of a sufficient quantity of the food that prepares her for egg-laying, she is *never* fertilized. So I now firmly believe that a queen is rendered incapable of becoming fertilized, or else she never cares to fly for that purpose, and I would not be surprised if it ruined her forever, to begin laying before she is ready, or before she is impregnated.

My idea about when a queen is too old to be fertilized is, when she partakes of the stimulations that cause her begin to lay. Some well-developed virgin queens will become stimulated right in mid-summer, before they are mated, hence drone-layers. Some young queens will lay drone-eggs for awhile when they first begin to lay, and then lay worker-eggs right along; but, mind you, these queens were mated before they began to lay. Only made a mistake, or the stimulation from the male had not thoroughly developed at the time when she was ready to lay. One of these two reasons is apt to be the cause of her laying drone-eggs first.

This little bit of experience of mine causes me to say that I think a second mating of a queen is one of the impossibilities in beedom. J. A.

Bees in Southern California—Skunks.

Our location resembles the one so well described by Mr. Wilder, on page 20 of *Gleanings* for Jan. 1st, only I have not tongue to tell its beauties. Near the north end of the valley is a huge rock with a crevice through the center, which has for years contained a swarm of bees; they were so situated that it was impossible to get at the cluster. Last season I determined to put them into hives.

I closed up all entrance to the crevice by filling up with old sacks, sage-brush, or anything that came handy, except one place over which I put a wire cone three feet long with only a bee-space in the top. At the base of the cone I placed a hive with a frame of brood in it, and I soon had a fine swarm in the hive. Every few days I changed the hive for an empty one, until I had, by furnishing each hive with brood for a queen, nine good colonies from that rock.

What bees were left with their old queen absconded. As soon as I had bees enough for a swarm in a hive, I placed it near the base of the rock, sheltered it from the sun, and left them to rear their queen and build up for winter. They were doing finely when there appeared on the scene his royal highness, the skunk, attended by a long and numerous train of relatives. The way I outgeneraled him is what I wish to relate.

In front of each hive I put stones about the size of a man's fist, in such a position that the bees could enter between the stones. The next tier was placed on top of the first, so as to make break joints just as our grandfathers used to stone up a well in the old country. We used plenty of stones, bunches of cactus, and everything of that nature that came to hand. When his skunkship knocks for admission, the bees start to come out, and meeting the cold air and stones, turn back before the skunk can reach them. I have tried the rock act not only on the bees I spoke of, but also on the bees of a neighbor which were unfortunate enough to be left in my care, and it worked like a charm. The skunks soon grew discouraged and and left for apiaries where they don't use rocks.

In the house-apiary and home yard the steel trap is always "on tap" along the line of entrance, and I often find them occupied not only by skunks but badgers, wild cats, mountain cats, squirrels, and even lizards. We have one variety of lizard—a big, black fellow, with bright stripes, that will soon (if left alone) clean up a colony of bees. Those I dispose of with a little 22 target-gun. For the skunk I use the shotgun. JOHN COLLINS.

Elsinore, Calif.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

Filtering Dark Honey to Improve Its Color.

Query 866.—1. Has there ever been any attempt made to filter the darker grades of extracted honey through bone carbon, to improve its color? 2. From an experiment I made, I think the temperature has to be about 140°. Will that hurt the flavor of the honey?—Penn.

I don't know.—J. E. POND.

I should think not.—MRS. L. HARRISON.

I have never tried it, so I cannot tell.—H. D. CUTTING.

1. Not that I know of. 2. I should think not.—R. L. TAYLOR.

1. None that I have heard of. 2. Do not know.—JAS. A. STONE.

You know considerably more about this than I do.—WILL M. BARNUM.

1. I never heard of it. 2. Perhaps not, but you can tell by trying.—C. C. MILLER.

1. I don't know. 2. I don't think it would, if not kept hot too long.—E. FRANCE.

1. Yes. It is not practical, I think. 2. It must be done very carefully, or it will.—P. H. ELWOOD.

1. I do not know. 2. A temperature of 140° ought not to injure the flavor of honey.—EUGENE SECOR.

1. I have never heard of attempts to filter dark grades of extracted honey. 2. 140° will not injure the flavor.—G. L. TINKER.

1. I never heard of any. 2. It is claimed that a temperature above 120° will injure the flavor.—MRS. J. N. HEATER.

1. No attempt on a scale to amount to anything. 2. I should think the flavor of the honey would be impaired.—J. P. H. BROWN.

1. I think filtering would not take the rank flavor, and would be too expensive in practice even if it worked well. I have not tried it. 2. I do not think it would harm honey to raise it to 140°, Fahr.—A. J. COOK.

1. This is something I am not familiar with. 2. One hundred and forty degrees of heat will not injure the flavor of honey.—G. M. DOOLITTLE.

1. Not that I am aware of. 2. No, not under ordinary conditions. Your idea is, I believe, worth testing. I would like to do it myself.—J. H. LARRABEE.

1. I have had no experience in that line. 2. Honey remaining at or above the boiling point long injures both color and flavor, for me.—MRS. JENNIE ATCHLEY.

1. I have no experience, and have never heard of such experiments. 2. I do not think that a temperature of 140° would hurt the flavor of honey.—C. H. DIBBERN.

1. I have no knowledge of any attempt of the kind. 2. I think a temperature of 140° will injure the flavor of honey. I will take my dark honey as it is.—M. MAHIN.

1. I do not know. 2. I don't think this degree of heat would injure honey. Some varieties of honey are much more susceptible to injury from overheating than others.—JAMES A. GREEN.

1. I have never tried it, but I think I should prefer to sell the dark grades as they are, rather than attempt to filter them. 2. All heating has a tendency to destroy the aroma.—S. I. FREEBORN.

1. Not that I know of. This kind of "fooling" never pays. 2. If properly done, honey can be heated to a much higher temperature than 140°, and not be injured. An inexperienced person, however, can easily spoil a fine lot of honey by heating it.—EMERSON T. ABBOTT.

1. We have thought many times that this might be tried on honey-dew, but have never tried it. Its color, much more than its taste, makes honey-dew objectionable. 2. We do not think 140° would hurt the flavor of honey, and we would very much like to hear of experiments made on this matter.—DADANT & SON.

1. I don't know. In my locality the trouble is not the "color," if the flavor is right. Too often our fall honey is strong and "twangy." Filtering would not cure this. 2. A temperature of 140° will not injure fall honey, if the application of the heat is not too direct. Often we improve our strong fall honey for table use by heating it to the *steam point*, and removing the "skim" as often as it rises. Some falls we have splendid dark honey, and my customers do not object to the color, if the taste is perfect.—G. W. DEMAREE.

Report of the Indiana State Bee-Keepers' Convention.

Written for the American Bee Journal
BY WALTER S. POUDER.

(Continued from page 432.)

Remarks on the Paddock Pure Food Bill.

Pres. Russell—There is now a Bill in Congress to be adopted, probably this Legislature, called the "Paddock Pure Food Bill." It institutes a penalty for any one adulterating pure food of any kind. Now, my friends, we want to raise our voices in favor of the passage of this Bill. I believe it is the duty of all bee-keepers to do so, and to lend all the aid they can in this direction. It is of great importance to us that this Bill should be passed. I would like to hear the opinions of those present on this subject.

Dr. J. M. Hicks, of Indianapolis—In relation to this Pure Food Bill, I want to say that about one year ago I was requested by a gentleman in the city of Cincinnati, to write a special letter to our Representative in Congress, setting forth our wishes in behalf of this Pure Food Bill, believing that this was the only way in which we could accomplish anything. I wrote this letter, making it as urgent as possible in the interests of the honey-producers, but got no reply, the reason of which I could not assign, except that it being the time of the political contest, his attention was otherwise engaged. However, my opinion is that the only way in which we can get this Bill passed is for the people to teem in letters, stating their wishes in regard to it. For my part, I am in favor of this Bill being passed, and also that the law should be a stringent one to protect all kinds of food, as well as honey. I know that we have had many impositions practiced upon us in our department—that of the honey-producers of the State. I have in a great measure become rather cold, losing my interest somewhat in the care of bees, but, as you all know, I once stood among those who were at the top in handling bees and their products in the West. It has certainly taken a good deal of the starch out of me to know that our voices cannot be heard in regard to this Pure Food Bill.

Mr. Thompson—It is my opinion in regard to this Bill that a larger part of the people of the United States will not want to see that Bill passed. Do you know, that the large manufacturers of butterine and oleomargarine will be against its passage? Do you know that many other large firms, daily manufacturing adulterated food of all kinds, will be against it? What can we do against these people who can stand many thousands of dollars to prevent its passage, while we cannot stand five hundred dollars for it? I think the only thing we can do is for us to pass resolutions here, and send them to our Representatives in Congress, and let them do what they can for us.

C. F. Muth—Well, gentlemen, I suppose it is pretty well understood that we are all in favor of the passage of this Pure Food Bill, and I now make a motion that we send resolutions to our Congressman, asking him to do what he can for us, and to use all the influence possible.

A motion prevailed, and the following was unanimously adopted:

WHEREAS, It is of the greatest importance that the interests of the honey-producers of the State of Indiana be protected; therefore,

Resolved, That the Indiana bee-keepers, in convention assembled, do pray our Representatives in Congress to use their influence and votes in having the Bill known as the "Paddock Pure Food Bill," passed at this session of Congress.

Mr. Muth—I am very sure that all the adulterated honey that we can find in this part of the country does not amount to a "row of pins." The adulterations have been carried on chiefly and very largely in the eastern cities, such as New York, Philadelphia, and others; but I don't suppose that there has been a barrel of honey adulterated in either Indianapolis or Cincinnati. As a dealer, I know that oftentimes a customer would say that I had sold him adulterated honey. I would immediately tell him to have it analyzed, and if he found it adulterated, I would pay him for his trouble, and give him $100 besides. This generally satisfied his doubts.

One time, shortly after Prof. Wiley had been here and advanced some of his "scientific pleasantries," I had just got-

ton from Nevada a car-load of honey, and a half load from some other State. These two lots of honey were the finest that I had ever seen. There wasn't a broken comb in it, and it looked like alfalfa standard comb honey. It had the flavor of red clover honey, and was as white and clear as the white clover and basswood. Well, I sent ten cases of this honey to Norwalk, I believe, and I soon received word that it was adulterated; that the customer had intended buying the pure honey, and not any adulterated stuff. I wrote him in return that it *was* pure honey, for him to have it analyzed, and if it wasn't, I would give him $100. The result was that he afterwards bought two or three lots more of the same kind of honey. Many will say to me, "You can't raise so much honey; it is adulterated; bees cannot make so much." We bee-keepers know better, and it rests with us to convince our customers that the honey we sell is all pure.

Mr. Raab—I have been selling extracted honey for a good many years, and I used to put it in stone jars, as there were no glass ones at that time. Well, after a while, it would granulate. I remember one lady who bought some of me, told me that it was adulterated; that it was not pure honey, because it had gone to sugar. I told her that she was very greatly mistaken, for that was a sign that it was pure, and that I always liked to have honey granulate. This shows about how much some people know about honey.

Pres. Russell—The next important question before us is in relation to our World's Fair exhibit for this State. You will remember that it was decided in our meeting last year that we should make an exhibit there, and so if we are to make it, I think now is the time for us to ask for an appropriation. Still another important question is the revision of our premium list. But perhaps it would be wise for us to defer these two important matters until to-morrow, when we shall probably have more members present, and shall be able to get opinions in full.

(Continued next week.)

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

When Queen-Excluding Honey-Boards are Needed.

Written for the American Bee Journal

BY W. Z. HUTCHINSON.

Last December, when I contributed an article to the BEE JOURNAL, detailing my experience in hiving swarms on foundation starters only in the brood-nest, I closed with these words:

It was the result of these experiments that led to the publication of my little book on "The Production of Comb Honey." Three thousand copies of the book were sold, and I would be glad if the purchasers of that book would tell where I am at fault, if I am at fault.

Soon after the appearance of the number of the BEE JOURNAL containing that article, Mr. H. R. Boardman, of E. Townsend, Ohio, who has had much experience in the line of hiving swarms without foundation, wrote me a letter showing where he thought I was in error. Noticing from time to time that the columns of the BEE JOURNAL were crowded, I have delayed writing further on the subject. Here is what Mr. Boardman wrote:

FRIEND HUTCHINSON:—You are certainly in error when you say it will be necessary to use queen-excluders in hiving new swarms on empty frames with only starters. I have never used a queen-excluder, nor have I *any use for them;* I regard them as only another accumulation of worse than worthless fixtures. I have hived hundreds of swarms upon empty frames with only starters. This has been my usual practice for years.

It is an *exceedingly rare occurrence* for the queen to go into the sections, and if managed properly, I doubt if she *ever goes into them.* When a queen once begins laying, disturb her as much as you will, and she will return to the brood-nest she left. This is the rule. If undisturbed, she will not leave the combs when she has commenced laying.

I have many times, by way of experiment, shook out the bees together with the queen, after she had begun laying, into the

sections, and I would be sure a short time afterwards to find her at home in the brood-nest, as intently attending to her domestic duties as if nothing had happened. It all devolves upon having the queen begin laying before the surplus department is changed to the new swarm.

I have had a good deal of experience not only in hiving natural swarms in this way, but also in drumming and shaking out swarms upon empty frames, and building up with feed after the season was over.

I have done more or less of this experimental work every year for a good many years; I say this only that you may know that it is not theory I am giviug you.

I use a deep hive which might seem to make some difference, but I very much doubt if it does.

I usually change the sections over on to the new swarm if the bees are building comb 24 hours after the swarm was hived.

H. R. BOARDMAN.

I agree with Mr. Boardman in every particular. There is one point in his management that differs from mine, and that explains why I need excluders and he does not. I transfer the supers to the newly-hived swarm *immediately* upon its being hived, and often in 20 minutes have the same bees back in the supers at work again with that energy that comes only from a newly-hived swarm. Mr. Boardman says, and says truly, that where a queen begins laying, there she will continue, and in the same way I have been led to believe that where the bees begin storing their honey, there will they continue to store it. For this reason I wished them to put their first-gathered honey in the supers.

If supers are at once transferred to the new hive, the bees will remove the honey from some cells in the sections that are the farthest from completion, and the queen will occupy them. As many cells as the bees can empty, she will fill. After comb-building has progressed somewhat in the brood-nest, she will likely go down there, but not until the majority of the unsealed sections have a patch of brood in their centers. As Mr. Boardman says, I have experimented in this direction until I know what I am talking about. If one or two combs are placed in the brood-nest at the time of hiving the swarm, the queen will begin work in them, and a queen-excluder is not needed. This I know from experience.

When I hive bees in the production of comb honey, I contract the brood-nest, that the choicest of the crop may not be stored in a large brood-nest instead of the sections. When the brood-nest is contracted, the supers are needed to give the swarm room. If they are crowded too much they are likely to swarm out. Of course, room might be given them until the supers were added. I do not know whether Mr. Boardman practices contraction.

If there is no loss occasioned by allowing the bees to work for a day or two in the brood-nest, and then giving them the sections, if a sufficient start can be secured in the brood-nest to retain the queen, if this can be done without any danger of swarming-out, unless there is considerable manipulation, then I see no use for queen-excluders in comb honey production.

I shall be glad to know if Mr. Boardman, or any one, has experimented sufficiently to know whether anything is lost by keeping the bees of a newly-hived swarm out of the sections for a day or two. If there is no loss, and too much manipulation is not needed to prevent swarming-out when contraction is practiced, then, as I have just said, excluders are not needed.

I do not know as there is anything objectionable in an excluder, aside from its cost, and as a honey-board is needed any way, the extra expense needed to make it queen-excluding is not very great. I certainly should not wish to do any great amount of manipulation to save this expense.

Flint, Mich.

Alsike Clover—Its Value for Fodder and Bee-Forage.

Written for the American Bee Journal

BY L. F. ABBOTT.

The inquiry regarding Alsike clover, on page 396, prompts me to write a few words regarding its cultivation and value.

Unlike most other clovers, Alsike is a perennial plant, partaking in this particular of the nature of the white or Dutch variety, it being asserted that Alsike is a cross of the Dutch and red or peavine clovers, hence its technical name, *Trifolium hybridum.*

Having had some experience in growing this clover, I can heartily recommend it, both as a fodder plant and for bee-forage. Generally speaking, it will not yield so large a crop of hay as the larger variety, yet its value in this direction is fully equal when sown on soil adapted to its growth. This is by reason of its finer stem and branching quality, and profuse bloom. Cut for hay when its blossoms have begun to brown,

it makes readily in a day's sun, and affords the most elegant fodder for both dairy cows and sheep. These classes of stock particularly, for its nitrogenous qualities, hence, a valuable milk-producer, and valuable on that account for breeding ewes.

As it remains in bloom a long time, and its blossoms are readily accessible to bees, to secure its wealth of nectar which it secretes in fine, warm weather, it becomes at once one of the most valuable plants farmers and bee-keepers, who have land at their disposal, can grow.

The quality of the honey it produces is little if any inferior to that gathered

ALSIKE CLOVER.

from the white clover; in fact, I have frequently seen persons who preferred the former to the latter. Alsike clover honey has a slight amber tint in distinction from white clover nectar, and experts claim to detect a faint taste like basswood honey; neither any disparagement to the product of Alsike clover.

All soils are not adapted to the growth of Alsike clover. It is hardly worth while to sow it upon dry or sandy soils. A clay loam; a tenacious but not wet soil containing considerable humus or vegetable matter, is adapted to the growth of this clover. Any soil not too moist to grow oats to a good yield, will be found adapted to Alsike. But on dry soils but little of the clover will be seen after the second year. Its roots do not penetrate the soil like the tap-root of the larger varieties of clover, but spread out nearer the surface.

In seeding for hay, it is usual to sow six pounds of Alsike clover, a peck of herdsgrass (timothy) and a bushel of red-top seed, per acre. But for bee-pasturage, eight or ten pounds of the clover would not be too much, with less of the other varieties; or even twelve pounds of Alsike seed per acre with no grass-seed mixed with it. It should be borne in mind that Alsike clover seed is but little more than half as large as the seed of the red variety, hence much less seed will suffice to stock the ground.

I think that many make the mistake of sowing the fine seeds of grass with grain, and harrow all into the ground together; while giving the grain the right depth of covering of soil, the fine seeds of the clover and grasses are covered too deeply, and many never germinate at all. The preferable way is to harrow or drill in the grain, and follow with the clover and grass-seed, broad-casting it, covering with a brush harrow, or better still, a moderately heavy roller. This gives a smooth, even surface for the reaper and mower, compacts the soil, and gives just the right covering for the fine seeds of grass and clover.

Lewiston, Maine.

That Sting-Trowel Theory—Land of Dzierzon.

Written for the American Bee Journal

BY DR. C. C. MILLER.

Are you sure "the intelligent compositor" hasn't been taking liberties with Prof. Clarke's note on page 330? Does he really mean that the difference in the flavor of buckwheat and clover honey comes from the poison of the sting? If there is no misprint in the affair, then it seems that Prof. Clarke goes a step farther now than he did, for in his book I find nothing as to flavor from formic acid, unless it be elsewhere than on pages 48 and 60. And isn't it a further step to say that the bees smear formic acid on the cappings?

Bro. Clarke, in the name of all that some of us old fogies hold dear in the way of tradition, are you going still farther? Will you next tell us of some further duty of the sting? Allow me to say in all candor, that it seems to me that it is due to yourself and to the

fraternity, to give some proof of what you call facts, if you have any.

Six or eight years, I think, have passed since you published as a fact that bees smooth and polish the surface of their cappings with their stings. I think you have never furnished a word of proof for what you say is a fact. The case would be a little different if you had said that you had seen the bees using their stings as trowels. I think you have never said that you had seen anything of the kind. I think no one has ever pretended to see anything of the kind, although the work of finishing up cells is not a hard thing to see any summer. Will it be asking too much for me to ask that you will kindly tell us how you know it is a fact, that the sting is used as a trowel?

NEWS FROM "THE LAND OF DZIERZON."

I am glad to see so well-informed a correspondent from the "land of Dzierzon" taking a place in the columns of "the old reliable." He has for a long time conducted an exceedingly interesting department in that excellent German bee-journal, the *Centralblatt*, giving a condensed extract of wisdom from all sources.

I wonder if there is any danger of getting his "Dutch up," if I enter a very mild protest against one of his statements. On page 330 he speaks of the Metzger theory as a "fact." Would it not be better to call it a theory until opposition to it has been somewhat silenced? The great Dzierzon called his belief a "theory" even after it was well established in the minds of the majority of intelligent bee-keepers. Still, I'll not be too particular about the names he uses, if he'll only keep us well posted as to what is going on in the "Fatherland."

Marengo, Ills.

The "Nameless Bee-Disease" in California.

Written for the American Bee Journal

BY FRED M. HART.

I have never seen anything that answered so closely to the description of the disease of my bees as the one on pages 141 and 142. Below I will try to tell how my sick bees turned out, after what I wrote on July 21st, and was published on Aug. 11, 1892.

On July 24th they stopped dying all at once. I gave them the medicine I spoke of at that time, by taking a broom and sprinkling the liquid all over the bees, comb, brood, and everywhere inside of the hive. I can't tell whether it did any good or not. I have 165 colonies at the home apiary, and in June and to July 20th, I took out every two weeks 3,300 pounds of extracted honey, and when about 50 colonies took sick between the 21st to the 24th, they stopped gathering honey, but the rest gathered about the same amount of honey in the next two weeks, or two months, as they had before July 21st. Those that were sick July 21st lost more than those that were taken sick on July 22nd or 23rd, but they stopped dying about the same time; but not one colony died out entirely.

Some colonies with queens hatched in May, died, while others with queens a year old, did not die. Some of those colonies built themselves up; others I helped either by giving them a laying queen or hatching brood.

I have noticed that it is seldom that a colony of blacks are bothered, while any colony that shows a trace of yellow, will take the disease, and a very strong colony is apt to show the disease first. When they are afflicted, they die faster in the night than any other time, so in the morning the colony has the appearance of having been robbed, or of a colony having lost its queen while swarming.

When they first took the disease, I noticed about a dozen bees in front of the hive dead, and some more that had crawled up in front of the hive were trembling, weak, and discouraged; others with abdomens swollen, and when I touched them they raised their heads and then fell to the ground. The next morning much worse, probably a pint of dead bees would be in front of the hive. The whole colony would be out of order.

When the first day they had brought in 3 pounds of honey, the second day they did not bring in anything, the third day the same, and the fourth day stopped dying, I opened the hive, and could notice a peculiar sour smell. The colony would be very weak, with more young bees in the hive than anything else; the brood all out of order, and in two, three or four days I would see the bees dragging out larvæ. The eggs were all right.

Another thing, if the disease should strike the apiary in two or three weeks, these colonies are just as apt to take it as any others in the apiary, and have several spells during the season, and then go into winter, and I will not see anything wrong in November, December or January. On Feb. 8th I had 9

colonies that were dying very slowly, and it is much earlier than any year yet for them to commence. I have noticed that when the bees are bothered with the disease in February, March or April, it is much more disastrous than during the hot weather. I lay it to the fact that bees are more apt to rob in those months than later in the season, and I think that it might often be called "spring dwindling," as the queens are much more apt to die than in July, August and September, though those are the months that the disease shows itself here in my own locality.

The hairless, black and shiny bees are most plentiful in the spring. In the summer, to look first at the pile of dead on the ground, at first sight they look as though they had starved, but on looking into the hive it will be found full of honey.

The first that I saw of this disease was in the summer of 1883. I purchased several Italian queens, and began to Italianize, and at various times since I have purchased colonies varying in number from 10 or 15 to 75 or 100, and invariably this disease would show itself more furiously than in other years when I did not make a purchase, but at the same time I can't say that excited it.

During all these years my neighbors have been bothered with what I supposed to be the same disease in this county, and in Kern county, and at San Jose (this State). Often times they thought their bees were being poisoned. so I kept still, thinking that way was the best to catch the guilty parties. Last year it showed more than ever, as many as 50 colonies in a single apiary.

In extracting, to take the combs out of a sick colony, extract the honey and place the combs into a strong colony, it will not create the disease, as I have several colonies that I have placed the combs in, and they have not had the disease.

My colonies are in rows, 3½ feet from center to center, and the rows are 8 apart. The disease will be in hive, and both sides of that one will stand hives that will be all right, and have never been bothered. It doesn't appear to make any difference whether the hive is an old, rickety one, or a nice, well-made hive; but the disease will take hold of a great many colonies in a single day, and in some localities it is much worse than in others. In writing this it is with the hope that my superiors will gain something, if not any more than to see how the disease appears in different localities.

Traver, Calif.

Some Experiences of a Beginner in Bee-Keeping.

Written for the American Bee Journal

BY T. HOLLINGSWORTH.

I began to keep bees last spring with one colony, and got 50 pounds of honey. They did not swarm, as I know of, and the hive was so full of bees and honey that I divided them on Aug. 25th, and made another colony, taking about one-half of the bees and combs and the queen for the new colony, which I put on another stand. In 14 days the first colony had a new queen, and a few days after that I looked again, but could see no eggs, and the brood-frames were so full of honey that I took a sealed comb out and put an empty frame in the center of the brood-nest. After a few days I found they had the comb partly built in the empty frame, and there were eggs in it, so I saw they had a laying queen, and did not bother them any more until I fixed them for winter.

The colony I put on the new stand, with the old queen, did not seem to be very strong; I think the queen must have been quite old, and a great many of the bees went back to the old stand, and I had such a time with robbers! Most of the time I had to contract the entrance to 2 inches, and then I was afraid I would smother them.

About the end of September I was watching them, when I saw a queen come out of the entrance; she flew about the entrance for a moment, and then flew away. I did not know what to think of it, for that was the hive the old queen was in, but I watched, and in a few minutes she came back and went into the hive again. I made up my mind I would see about it, and so opened the hive and found two queens in it, and one of them had something white attached to it. I supposed it was the appendages of a drone, and that it was a young queen they had reared to help her old mother, and that she had been on her wedding flight.

I looked into the hive in several weeks afterward, and the two queens were still there, but the swarm was weak, and I still had lots of trouble with robber bees at that hive. On Nov. 1st I put an outside case over the hives with a space of about 2 inches on all sides filled with excelsior packing, having a space between the packing and the hive of about 3 inches. On Nov. 4th it was getting colder, so I put a 5-inch super on the hives. (The box was high enough to

cover that also, and enough higher so that chaff could be put on top of the super.) I also put a Hill's "device" (of my own make) on top of the frames, and then a chaff cushion on that; then put on the super cover, and filled space between the packed box and hive and on top of the super with chaff. I then put a tight, iron-covered top on the box, leaving an entrance of about ⅜ inch by 5 inches. Before closing up the hive with the two queens in it, I took out a frame that was entirely empty, and in its place put the full sealed comb I had taken out of the other hive, and then they had, I judged, 25 pounds of stores, while the other hive was full of honey and lots of bees.

On Jan. 5th it was quite warm, and the strongest colony was out in large numbers, having a good flight. The other one with the two queens was quiet. I looked in the entrance and saw a good many dead bees on the bottom inside, so I took a stick and poked them out, and also a lot of dark, yellow mealy stuff that lay on the bottom-board. It did not start any bees out, so I took off the iron cover, and took out the chaff off the super, and uncovered the super and put my ear down; I could hear the bees inside buzzing quite lively, so I concluded all was right, and I closed it up again. By that time a few began to come out at the entrance, but soon went back. The chaff in the box was as dry as when put in.

On Jan. 21st I raked out some more dead bees, and raked out a dead queen. There was also lots more of that mealy stuff, so I concluded the the old queen had died of old age, or else one of them had been killed, or perhaps they were all dying off.

January 22nd was a warm day again, and the strong colony was out flying again, and was taking out their dead bees, but the other one was still quiet, and plenty of dead bees on the bottom-board; but in the afternoon quite a few came out and were flying about, so I don't know why they don't come out like the best colony, unless they are so weak. I don't like to disturb them for fear of making them worse.

My neighbor, only a few rods distant (as I am in town) has 3 colonies on the same stands as in summer, with nothing but an empty box over them, and they are out on all warm days in great numbers, while mine are all quiet. I did not know but it was because they felt the sun through their thin walls sooner than my packed ones. But perhaps mine do not get out as much as they should. If some one will give me any advice about it, I shall be glad, as I am only a beginner, and realize that I can profit a great deal from the experience of others.

De Witt, Nebr.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Sell Your Honey at Home.

For bee-keepers who have but a small amount of honey for sale, it is far cheaper for them to sell it at home than to buy shipping crates, etc., and pay heavy freight charges, as is usually the case with small lots of anything. And to create a demand for honey, the people must be educated enough to know what honey is.

Deer Plain, Ills. F. X. ARNOLD.

How Far Bees Fly, Etc.

On page 45, in reply to "Bee-Hunter's" query, I would say that I have hunted bees more or less for the last 40 years, and I have known them to fly six miles in the white clover season. When Italians were first introduced into this section, they went that distance into an adjoining town to a certain ridge where the white clover blossomed very heavily. There was no other Italians anywhere near, that we knew of. We lined them straight for that apiary, and carried them far enough to know that they went there. It was our first introduction to yellow-banded bees.

In the BEE JOURNAL for Dec. 22, 1892, there is an article from the pen of Wm. F. Clarke, criticising the reply of James Heddon to a question on the improvement of bee-periodicals, viz.: "First, most and all the time, wipe out the curse of filling our bee-periodicals with the writings of apicultural literarians, and replace it with the honest reports and opinions of honey-producers who make bee-keeping pay."

My opinion of Mr. Heddon's answer is, that it was the best answer given to that query. Of what earthly use is an article on bee-keeping if it is not given by some one who knows from experience what he writes—something practical, that will benefit some bee-keeper that has not had such experience? While, on the other hand, one of

those "apicultural literarians," perhaps having a slight smattering of bee-keeping, or none at all, but are simply well read and can write fluently, pose as one of the leading lights in bee-keeping, and try to make a living with the pen, being too lazy to work. I have talked with some of the hard-working bee-keepers about that very thing, and nothing so easily disgusts them in the line of bee-literature than to come across an article written by some of those same "apicultural literarians" they happen to know. Mr. Clarke's strictures on Mr. Heddon are overdrawn, in my opinion, as to the number of colonies kept; also his remarks in regard to Father Langstroth. I think that Mr. Heddon simply wanted nothing but practical experience in bee-keeping given.

I understand that Dr. Miller has been asked by the publishers of a new Dictionary, to give them the words and terms in bee-literature, with definitions, to be published in the new edition. I suggest that he give the words "apicultural literarians," with the meaning thereof.

Angelica, N. Y. J. R. COMMON.

An Old Bee-Keeper's Experience.

I have been a subscriber to the "Old Reliable" from the first number under Mr. Wagner, with the exception of a short time—I think it was when under Mr. W. F. Clarke's control. Have been engaged in bee-keeping for 43 years, being now in my 83rd year, but I am still as devoted to the occupation as I was 40 years ago. I can take a swarm down from a tree as easily as ever.

In 1861 I had 62 colonies, and lost all but 13 from a bad season and bad honey. I recruited up to 33 in 1862, and obtained 62 pounds of comb and extracted honey per colony, spring count.

Last summer I got Pierce's "Winter Problem," and prepared 14 colonies according to his directions, and up to the present time 7 have died. Of the others with chaff on the frames, none have died.

I could give quite an experience with some 14 different styles of hives in the last 43 years of my bee-keeping, but will only say that in 1852 I purchased the Langstroth hive, and have never been without it in all these years, and still believe it to be the best hive made. SAMUEL C. WARE.

Towanda, Ills., March 20, 1893.

The Weather and the Bees.

Since my last letter (Jan. 21st), we have had five days of zero weather in January, nine in February, and five in March, up to this date. In January bees had flights, or could fly, on nine days in the month; in February three days; and in March, so far, also three days.

While we had but very little snow in December, January and February, we had a regular blizzard on Feb. 28th, which brought about 12 inches of snow on the level; and on March 16th we again had a snowfall of about 4 inches.

On March 9th and 10th I investigated every colony in the apiary, and found all of them in good condition except 5, which had been invaded by mice, and were rather in a weak condition. Of 38 colonies, I found every queen on hand; 20 colonies were extra strong; 13 were strong; and 5 weak. I supplied those that needed it with one or two combs well filled with honey, and contracted the brood-chambers of those disturbed by mice.

All of the absorbent packings above the bees were well dried and then replaced, and now I propose to give them another severe letting alone until about the middle of April, or May 1st, when again a close revision will take place, and those selected for drone-rearing will receive their drone-comb well filled with honey. I expect everything to go well now, unless the weather proves to become exceedingly adverse. WM. STOLLEY.

Grand Island, Nebr., March 21, 1893.

Broom-Handle Swarm-Catchers.

We learn of a great many new inventions, and a great many that are of great value to bee-keepers, so much so that it would be hard to get along without the AMERICAN BEE JOURNAL. Here is something quite old, and yet it is new, too. Mr. W. H. Veeder, of Grand Island, Nebr., told me the way they used to catch swarms 20 years ago in New York State. Here is his method:

"We would take broom-handles and wrap rags on the large end, making a roll about 10 inches in length, and about 3 inches through the center, tapering off smaller at the ends. The rags we would saturate with melted beeswax. The other end of the handle is sharpened so as to stick in the ground. We used one handle for every four hives."

Mr. Veeder assures me that nearly every swarm that issues will cluster on some of these prepared sticks. The sticks should be stuck in the ground about 4 rods in front of the hives. Mr. Veeder thinks the scent of the wax has a good deal to do with the bees clustering on the rags.

Aurora, Nebr. CHAS. WHITE.

Self-Hivers and Queen Flights.

On page 142 is an essay on "Self-Hivers and their Use," read at the North American Convention, in which Mr. E. R. Root says, at a previous convention, Mr. E. L. Pratt, of Marlboro, Mass., showed him a self-hiver which Mr. Root adopted and describes. There is no use in me describing it, because it would take too much space. Mr. Root says that it is so arranged that the queen can pass out, but not back again. I have heard the question often asked, "Does the queen ever leave the hive to take a flight?" I say she does. One Sunday I put a drone-trap on a hive and sat down, as I most generally do, took a knife and cut off the heads of the outside drones trying to get in.

I was just butchering away when suddenly I saw the queen trying to get in. I at once caged her, and examined the colony, and found no queen. Then I put the queen back, and they took her. Now if it was a strange queen they would not have taken her.

On another occasion I opened a hive to find the queen, and the first thing I saw was the queen right on the top of the frames. I was just going to cage her when she flew away. I watched the entrance, and in half an hour she came back. Now, poor queen, if she should venture to take a flight, and be caught and couldn't go back nor out! If this is the case, then let the inventor make a slight improvement, and fix it so the queen can pass outside and die in the sunshine, rather than in the prison.

The best of all, Mr. Root tried the self-hiver on 10 or 15 colonies, and succeeded, and they seem to store lots of honey (150 pounds). Let some of the celebrated writers, or others, prove that queens do not take flights. I mean fertilized queens. If you have a colony of bees this spring that are cross, and you want to kill them, the only remedy will be, "apply the self-hiver."

Milwaukee, Wis. ARTHUR HEISS.

Did Well in 1892—Hiving Swarms.

Bees in this section did extra well last season, notwithstanding the very discouraging spring which we had. There was a splendid flow of basswood honey which began the first week in July, and lasted until nearly the close of the month, after which followed a good flow from buckweat.

I had in the spring 8 colonies, which I increased to 15, and obtained 365 pounds of comb honey. I use the 10-frame hive about the same dimensions as the Langstroth. I later bought 2 swarms more, which made 17 to go into winter quarters. I packed them in chaff hives, with chaff cushions and Hill's "device," etc. On March 8th every colony had a good cleansing flight.

It has been a hard winter on bees, and especially those in the old style box and single-walled hives. The majority of the bees in this vicinity are, however, in the movable-frame chaff-hives, and but very few bees are wintered in cellars.

Now, it is a question with me which *will pay* me best, to hive my swarms the coming season on full sheets of foundation in brood-frames, or only on starters. Last season I hived on full sheets of foundation, because the best authorities I had read at that time advised it; but now, after reading three different bee-publications, I find that the correspondents differ on this, and also in regard to using full sheets of foundation or starters in sections. This season, if my bees winter all right, and I expect they will, I wish to increase to 25 colonies, and work for comb honey only, and would like to know the best way to manage them especially about the foundation. My bees are mostly hybrids. LUTHER S. ELY.

Brooklyn, Pa. March 14, 1893.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

PUBLISHED WEEKLY BY

GEORGE W. YORK & CO.,

At One Dollar a Year,

56 FIFTH AVENUE, CHICAGO, ILLS.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given n the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club.*
The American Bee Journal.....	$1 00	....
and Gleanings in Bee-Culture....	2 00	.... 1 75
Bee-Keepers' Review.....	2 00	.... 1 75
The Apiculturist.....	1 75	.... 1 65
Bee-Keepers' Guide.....	1 75	.... 1 65
American Bee-Keeper.....	1 50	.... 1 40
Canadian Bee Journal.....	2 00	... 1 75
Nebraska Bee-Keeper.....	1 50	.... 1 35
The 8 above-named papers	6 50	.... 5 50
and Langstroth Revised (Dadant)	2 40	.... 2 25
Cook's Manual of the Apiary	2 00	.... 1 75
Doolittle on Queen-Rearing.	2 00	.... 1 65
Bees and Honey (Newman)..	2 00	.... 1 65
Advanced Bee-Culture.....	1 50	.... 1 35
Dzierzon's Bee-Book (cloth).	2 25	.... 2 00
Root's A B C of Bee-Culture	2 25	.... 2 10
A Year Among the Bees	1 50	.... 1 35
Convention Hand-Book.....	1 25	.... 1 15
Illustrated Home Journal ..	1 50	.... 1 35

Convention Notices.

PENNSYLVANIA.—The Susquehanna Co. Bee-Keepers' Association will hold their 12th semi-annual meeting at the Tarbell House in Montrose, Pa., on Thursday, May 4, 1893. All are invited. H. M. Secley, Sec.

Harford, Pa.

NEW YORK.—The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.

H. C. FARNUM, Pres., Transit Bridge, N. Y.

COLORADO,—The adjourned meeting o the Colorado State Bee-Keepers' Associati will be held in the Charles Block, corner 15t and Curtis Streets, Denver, Colo., on April 18, 1893. Business important to all honey-producers will come before the meeting.

Littleton, Colo. H. KNIGHT, Sec.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, April 8th, 1893 :

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

CINCINNATI, OHIO.—There is a fair demand for extracted honey at 6@8c. There is no choice comb honey on our market, and prices are nominal at 14@16c. for best white.
Beeswax—Demand good, at 24@27c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Demand for comb honey is very light, White fancy stock is well cleaned up. The market is well stocked with off grades and buckwheat, and prices are irregular. Extracted is in good demand and stocks are light. We quote: Basswood and white clover, 8@8½c.; buckwheat, 6@6½c.; Southern, 70@75c. per gallon.
Beeswax—25@27c. H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

ALBANY, N. Y.—Honey market quiet at following prices : White comb, 14@15@16c ; mixed, 12@13c ; dark, 10@11c. Extracted, white, 8@8½c ; mixed, 7@7½c ; dark, 6½@7c.
Beeswax, 26@30c. H. R. W.

Local Checks.—Please do not send us checks on local banks. We have to pay from 15 to 25 cents each to get them cashed here, which is quite a useless expense, when you can either send money by registered letter, or get an express or post-office Money Order. We *prefer* the express Money Order, if you can get that ; otherwise the post-office Money Order or registered letter.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.
F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.
SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.
J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.
HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. Co., 521 Walnut St.

Albany, N. Y.
H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.
CHAS. DADANT & SON.

Cincinnati, Ohio.
C. F. MUTH & SON, cor. Freeman & Central avs.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

WANTED—To correspond with ladies between the ages of 25 and 45. in reference to matrimony, who would be likely to become interested in bee-keeping and poultry-raising. Common sense and honesty preferred to capital and vanity. Confidential correspondence solicited. RUFUS WILLIAMS,
15A1t Crescent City, Logan Co., Okla. T.

FOR SALE—A Circular Saw, hand or foot power. O. C. BROWN,
14A2t Council Bluffs, Iowa.

WANTED—Foot-Power Lathe for metal ; Portable Forge and Anvil. I will exchange Honey, Bees, Queens, or good Bicycle.
14Atf J. A. GREEN, Ottawa, Ill.

WANTED—To exchange, a claim 1 mile from a thriving town in Logan Co., Okla. Ter., for land in Northeastern Texas, Southwestern Arkansas, or Northwestern Louisiana, contiguous to a river, in a good bee-keeping range. Correspondence solicited.
Address, RUFUS WILLIAMS,
15A4t Crescent City, Logan Co., Okla. T.

ONE PROFIT ONLY.

Pease Piano Co.

CHAS. H. MACDONALD, MANAGER.

Write for Catalogue World's Fair Souvenirs and Pin Book. Mention this Journal.

ITALIAN QUEENS MAILED NOW

Tested, $1.25; 6, $7; 12 for $13. Untested, $1.00; 6, $5; 12, $9. Two-frame Nucleus, $1.25. Drone Nucleus, $4.00. **Supplies and Bees cheap.** Send for Circular. Safe arrival always guaranteed, by **J. N. COLWICK,**
15Atf NORSE, Bosque Co., TEXAS.

Mention the American Bee Journal.

ITALIAN QUEENS.

BRED for Business, Gentleness and Beauty. Untested, 80c. each; three, $2.25; six, $4.00; twelve, $7.50. Tested, $1.25. Selected tested, yellow to the tips, breeder, $1.50. Will commence shipping April 15th. Safe arrival guaranteed.

G. E. DAWSON,

CARLISLE, Lonoke Co., ARK.

Mention the American Bee Journal.

IF YOU WINTER IN

Hilton's Improved Chaff Hives

You will have Bees to Sell in the Spring.

Send for his Frec Illustrated Catalog of every thing needed in the Apiary, of **best quality** and **lowest prices.**

100 Colonies of Bees for Sale Write for prices and

Address, **Geo. E. Hilton, Fremont, Mich.**

Mention the American Bee Journal.

MY WIFE SAYS SHE CANNOT SEE HOW YOU DO IT FOR THE MONEY.

$12 Buys a **$65.00 Improved Oxford Singer** Sewing Machine; perfect working, reliable, finely finished, adapted to light and heavy work, with a complete set of the latest improved attachments FREE. Each machine is guaranteed for 5 years. Buy direct from our factory, and save dealers and agents profit. FREE TRIAL and FREE CATALOGUE.

OXFORD MFG. CO., DEPT. Chicago, Ill.

Mention the American Bee Journal.

A BARGAIN IN BEES!

60 **COLONIES** Italian and Carniolan Hybrid Bees in good Langstroth-Simplicity 8-frame hives, at $4.00 each, on board the cars at Seafield, Ind. Also, at same place, a D. S. **Given Foundation Press,** with Dies 2-inches wider than the Langstroth brood-frame—almost as good as new. Price, $35.00.

Address orders to,

GEORGE W. YORK & CO.,

- CHICAGO, ILLS.

GOLDEN ITALIAN QUEENS

For sale in April for $1.00. Full Colonies for $6.50. The **Best Spraying Pump** in the market for the price.

A Full Line of Supplies.

Remember we are the Largest Manufacturers in the West. Send for Circular.

WM. H. BRIGHT, Mazeppa, Minn.

14A8t *Mention the American Bee Journal.*

Sample of the only 50c a year 16-page ag'l & home weekly; circulars, etc., of best household steam cooker; & terms to agents, all for 2c stamp. Agents clear $50 a week.

FARMER'S CALL, Quincy, Ill.

Sample paper free. New subs., 1 year, 25c.; 3 yrs. 50c.

$5,000 . . IN PREMIUMS GIVEN AWAY WITH

$1.00 A YEAR.

SEND - FOR - SAMPLE.

MONITOR PUBLISHING CO.,

24 Times Building, - CHICAGO.

Pratt Hiver Ready to use, sent postpaid for 75c. Circular and price-list free. Great success. Address, **E. L. PRATT,** 15A2t BEVERLY, MASS. **75c**

[Established in 1871.]

The Pacific Rural Press.

The only Agricultural weekly published in California, and the Leading Farmer's paper of the Pacific States.

Subscription Price, $2.40 per Year.

Send for Sample Copy.

DEWEY PUB. CO.,

220 Market St., SAN FRANCISCO, CAL.

ESTABLISHED IN 1861 — THE AMERICAN BEE JOURNAL — OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., APRIL 20, 1893. NO. 16.

Mr. Allen Pringle, of Selby, Ont., favored the BEE JOURNAL with a pleasant call last Saturday. He has come to Chicago to remain during the World's Fair, as he has charge of the exhibit of honey and bee-appliances for the Province of Ontario. In Mr. Pringle our Canadian friends have an excellent and able representative—one who will bring honor to the country and cause he represents, and credit to himself for the wisdom and skill that he will exercise in carefully looking after Ontario's characteristically fine apicultural exhibit.

Extractors and Extracting is to be the very timely special subject for consideration in the May *Bee-Keepers' Review*. The April number, which is just received (April 13th), is an unusually valuable one—not devoted to any special topic, but giving the final "round up" on "self-hivers," a good description of Mr. Langdon's "largest house-apiary in the world," and other exceedingly interesting and valuable "bee-talk."

In commenting upon our new department of "General Questions," Bro. Hutchinson says: "Bro. York is certainly working hard to make his journal 'worth its keep,' as friend Hasty says."

On another page of the same issue, just before so very kindly quoting in full Bro. Root's editorial, as published on page 455 of last week's BEE JOURNAL, Bro. Hutchinson writes thus about editorial work:

> There is no one who notices so soon the presence or absence of editorial work in a paper as the editor of a similar journal. I have several times noticed the large amount of editorial work done by Bro. York, of the AMERICAN BEE JOURNAL, but I doubt if I could have expressed myself quite so nicely on this point as has Bro. Root in *Gleanings*.

Mr. Wm. McEvoy, whose picture and sketch we published on page 393, will very soon write fully his methods of curing foul brood, for the readers of the BEE JOURNAL. This notice will answer many of the requests that have been sent to him, to Prof. Shaw, of the Ontario Agricultural College, and to us, desiring that Mr. McEvoy describe his methods of treating that dreaded bee-disease. As soon as received, we will give Mr. M.'s article first place, in order that those most interested may at once take advantage of the information given.

Dr. C. C. Miller, of Marengo, Ills., was in Chicago several days the latter part of last week, to set up the apiarian exhibit of Bro. A. I. Root, of Medina, O., at the World's Fair grounds. We had a most delightful visit from the Doctor, who is just as jovial and young-hearted as can be, regardless of the 60 years that have helped to thin and grey his hair somewhat. No bee-keeper can afford to miss meeting him at the coming North American convention in this city, where the Doctor will preside, as well as cheer with his happy smiles and harmless wiles.

Californian Appropriations for the benefit of the apicultural industry of that State, do not materialize very rapidly. Mr. Pryal, who has an article on page 500 of this number of the BEE JOURNAL, wrote us as follows on April 6th, about the Bill that was introduced to the State Legislature looking toward helping the State Bee-Keepers' Association:

Referring to page, 391, I will say that the Bill to appropriate $300 to the California State Bee-Keepers' Association was numbered 760 on the Assembly file—pretty high up, or, more properly, down on the list. The truth was, that it was so well smothered by older Bills, that it never had a chance to be forced up to a point where it could be forced along. I don't think it ever reached a first reading. If it had been introduced about two weeks sooner, it would have gone through all right. I knew from the promises I had, that if it were introduced sooner the Association would have had the money, provided the Governor did not veto it, as he did the whole batch of Bills, so as to keep the taxes within a limit he pledged himself to do if elected; in this regard he has been more honest than most men who are elected to high positions.

The bee-keepers can get the appropriation two years from now, if they get their Bill in in time. There is no State in the Union that gives the horticulturists such large appropriations as does this State. The viticulturists and viniculturists also receive large sums from the State, to help their industries; so there is no reason why the apiculturists should not receive something, too. They can get it if they can get in and work for it. I would be in favor of having an Apicultural Commission that would have charge of the foul brood laws, new races of bees, printing documents that would help the industry in various ways, and several other things which might suggest themselves. I think an appropriation of $5,000 could be obtained for such a purpose, if the bee-keepers went about obtaining it in the right sort of a way.

They have now laid the foundation for obtaining something for their benefit, and I trust that they will not let the grass grow under their feet.

It was unfortunate that the bee-keepers were no in time in presenting their application for aid. Next time, no doubt, they will "get there" and get it all right.

In reference to Mr. Pryal's article on page 500, it is very difficult to decide just what is best to say. Saying anything, likely, will not help matters very much, though it may afford relief to harrowed feelings. What a shame it is, that the great (?) Sate of California should thus treat its sweetest people! Such actions on the part of the World's Fair representatives is wholly beyond comprehension, and altogether unjust and contemptible; and yet, Illinois bee-keepers, if we mistake not, have fared no better in their application for assistance in making a display of the apiarian products of this State at the Fair so soon to be opened to the world.

To say the least, such action, or *in*action, is very discouraging to those who would love to show what great advancement apiculture has made, and is making, in this land. The result now will be that foreign countries will make a better showing in our department than the United States. If so, it should put to shame those who have withheld the little help asked for, and which would have enabled American bee-keepers to successfully compete with the apiarists of any part of the world!

French Fame and Loose Bottoms.—Dr. Miller thinks that Mr. Chas. Dadant, in his autobiographical sketch, published on page 425, did not tell *all* the truth about himself, especially as to his fame in France. Here is what the Doctor has to say regarding it:

Isn't it a little strange that a man like Chas. Dadant should be guilty of such misrepresentation as occurs in his autobiography on page 425? For isn't the suppression of the truth a sort of misrepresentation? Now there isn't a line, nor a word, to show that Mr. Dadant has a reputation worth speaking of in France at the present day, while the fact is, I suppose, that he is even better known there than in this country. The Dadant hive is one of the most popular in France, and one of the most able and vigorous writers to be found in the French bee-journals to-day is that same Chas. Dadant.

We are glad Dr. Miller has so thoughtfully supplied the above important omission in Bro. Dadant's sketch, which was no doubt due to his extreme modesty, and not at all from any intentional misrepresentation (?).

Dr. M. also sends the following paragraph for Sister Jennie Atchley, about loose bottom-boards:

Mrs. Atchley, in "Queries and Replies," says: "Give me your excuse for a loose bottom-board." They're right handy when you want to turn 'em over, Jennie. So they are when you want to tier up one hive above another, or when you want to clean off the bottom-boards. Count up the replies, and you'll see that about two to one use them. There's much in being used to a thing.

General Questions.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Queens Injured by Being Chilled.

Will it injure a queen to become chilled in a transit from the South in cool weather? Will she be as fertile as before being chilled and warmed to life again? CHAUNCEY REYNOLDS.

Fremont, O.

ANSWER—Yes, if chilled as much as to need to be "warmed to life again," she might be badly injured. At least there are cases on record where a queen was frozen and revived, with the result that she was afterward worthless.

Will the Colony Swarm?

Will bees send out any natural swarm that are on 3 and 4 frames on May 1, 1893? or will they only build up by fall enough to winter? W. K.

ANSWER—That question will be more easily answered if you can foretell what the season of 1893 is to be. Sometimes the season is so poor that the very strongest colonies prudently abstain from swarming. But in a fairly good season, such a colony as you mention ought to have no difficulty in building up strong enough to swarm.

Prevention of After-Swarms.

I would like to know what the "Heddon method" is. In the BEE JOURNAL for Dec. 22, 1892, Mr. W. Z. Hutchinson speaks of preventing after-swarming by the "Heddon method."

ELMER BRIDENSTINE.

ANSWER—Drive out the queen and a majority of the bees into a hiving-box or empty box. Move the old hive a few feet backward, reversing its entrance. Set on the old stand a hive furnished with frames of foundation, run the forced swarm into it, and then in 21 days drive out the remaining bees from the old hive, and add them to the former "drive."

Died with Diarrhea—1-Frame Nucleus

I would like to have a little information about what was the matter with my bees the past winter. I wintered them on the summer stands, and sheltered them with straw to break the wind, and part of them died with 40 pounds of honey, and the honey was within reach of the cluster when they died. They discharged their feces—a dark, brown-colored fluid—on top of the frames, right above the cluster, and on the combs close to them. They had white clover and buckwheat honey to winter on.

Would it work well to put a one-frame nucleus in the hive of each colony that died, so as to build them up and have them ready for the honey crop when it comes? W. W. MARTIN.

Albia, Iowa.

ANSWER.—The trouble with your bees seems to have been a bad case of diarrhea. It will be all right to use the same combs again, but you will do well to scrape off what filth from top-bars and combs you can. It will be asking a good-deal of a one-frame nucleus to build up and be ready for the honey crop in an ordinary season.

Quilts in Summer—1-Pound Sections.

1. Please give the reason for leaving the quilts over the frames in summer, as I think by reading that most bee-keepers do so. I cannot see why the bee-space above the frames should be closed. Would it not be better to take it off and use the cover alone.

2. What is best size one-pound section for the general market? Those I used last year were 4¼x4¼x1¾, scant. My hives are 12 inches wide, inside, so 7 will just fit them, or nearly so. I weighed one tier of 7 to-day, and find 3 of them under weight, 2 over, and 2 the right weight, viz.: one pound. Now, if some of them are under weight, can I sell them, or will I have to extract them, and save the comb for another year?

MANUS BEAUPRE.

Forestville, Ont.

ANSWERS—1. Much depends upon the kind of hive. Some hives have covers with so much room under them that the quilts are needed to fill up, and some are so arranged that even when the surplus arrangements are on, the quilts must be used. But if only a bee-space is left between the top-bars and cover, there is no need of a quilt in summer. Indeed, quilts are going out of use, many pre-

ferring a tight board-cover with no quilt, summer or winter.

2. Probably your sections are about as popular in size as any. Of course you cannot sell for a pound anything less than 16 ounces. Some sell each section for a pound, heavy or light, plainly dishonest, if the purchaser is allowed to believe that the light-weight sections are full weight. Others sell all at so much per section without regard to weight, and still others take the better way of selling each one for just what it is, by weighing it. There is nothing wrong in selling a section that weighs only 13 ounces, providing you sell it for 13 ounces. Don't extract the underweights, but sell them for what they are. Some will prefer them.

Transferring Comb to Another Hive.

I have 50 hives with old-fashioned brood-frames, some of them have combs pretty crooked. I should like to transfer them into self-spacing Hoffman frames. Would you kindly let me know how I am to do it, and if I should have foundation starters or not?

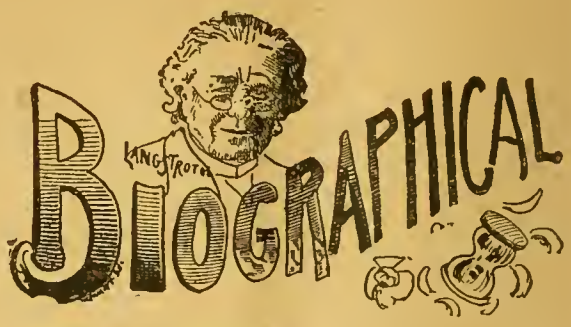
ANDREW GIRARD.

Linwood, Mich.

ANSWER.—Lay the frames down flat, and cut out the combs with a knife kept heated. Lay the new frame over the combs, and cut to fit, making the combs crowd a little. Wedge in pieces of comb where the fit is not tight. There are various ways of fastening, if the combs do not stay in of themselves. Some like to lay strings under the combs before the frame is crowded on, and tie, then the bees will gnaw out the strings themselves. Some like sticks of tin instead of strings. Some pierce holes through the wood, and thrust through common hairpins, letting the two parts of the hairpin go on each side of the septum.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.



DR. G. L. TINKER.

The subject of the following sketch has for years been among those who have furnished answers to questions in our department of "Queries and Replies," from week to week. Formerly he also contributed an occasional article for the columns of the BEE JOURNAL, and we hope soon to again be permitted to present to our readers something from his ready and experienced pen.

We are now issuing a new and revised edition of his excellent little book, "Bee-Keeping for Profit," which will be ready to mail about April 20th. It will be sent from this office, postpaid, for 25 cents; or clubbed with the BEE JOURNAL, for $1.15.

Further introduction of the Doctor being unnecessary from us, we now present to you something about his useful life and its helpful work:

Dr. G. L. Tinker was born on June 19, 1843, at Kingsville, O. His ancestors were all Connecticut Yankee or Puritan stock. Thomas Tinker, who came to this country in the "Mayflower," and soon after died with wife and child, is believed to have been a brother or near relative of John Tinker, the Doctor's earliest known ancestor, who came from England soon after and settled in Connecticut. He was a man of distinction, and all the Tinkers in this country are thought to be descended from him.

At the age of 15 the subject of this sketch attended the Eclectic Institute at Hiram, Ohio. He was under the instruction of James A. Garfield, and others, for two years; when the Civil War broke out, he was one of the first to leave the Institute and enlist for 3 months, and then for 3 years. His health failed, and with it his army ser-

vice ceased. He soon after began the study of medicine, and graduated at the Eclectic Medical Institute in Cincinnati, O., in 1868, since which time he has been continuously engaged in the practice of medicine, having been remarkably successfully from the first.

During the last 10 years his hearing has been so greatly impaired that he had sought to quit the practice and devote his time to bee-keeping and the manufacturing of apiarian supplies. But his friends would not listen to it, and so he continued to do a large practice. His success has been greatest in the treatment of all acute diseases, and during

DR. G. L. TINKER.

the summer and fall he has often been too busy to reply to his bee-keeping friends.

The Doctor's most notable success has been in treating typhoid fever. Many times after other capable physicians have given up their cases to die, they have recovered in a most remarkable manner under his care. Some of these cases have bordered upon the marvellous, and caused a great deal of talk, far and near. Intelligent, silent prayer is believed to have exerted a most potent effect in these cases. He generally uses small doses of vegetable remedies.

For 12 years, or since his hearing began to fail, he has sought to master the art of apiculture, although he kept a few bees for several years before that. He has made several improvements in hives, and taken out several patents. His principal inventions are the Wood-Zinc Queen-Excluder, the Nonpareil Section Super and Hive. He also found the proper gauge for the perforations in queen-excluder zinc, as well as for drone-excluder zinc, and these have been adopted as the standard by both European and American bee-keepers.

Being a mechanic from boyhood, having learned early to work in wood and iron in his father's shops—he being a machinist and founder since the Doctor's earliest recollection—he has made all of his hives and fixtures, and has conducted many experiments in a great variety of hives, finally adopting the Nonpareil Bee-Hive as the best for the production of comb honey.

As the management of this hive for the best results is new and different from that in general use, he has written a book upon the subject, called "Bee-Keeping for Profit," including the most important practical information on the general care of bees for beginners. The first edition is now exhausted, and a second, with additional matter, will soon be given to bee-keepers.

Dr. Tinker has been a frequent correspondent of the bee-papers since 1881, beginning with the AMERICAN BEE JOURNAL. Being passionately fond of bees and their care, he has developed a strain of bees that he has called the "Syrio-Albino"—the mother stock being Syrian. By continuing to breed alone from the mother stock, the original prolificness of the Syrian race has been retained, with many of the excellent comb-building qualities of these bees. They now closely resemble the average Italian bees, being mostly Italian blood, but the delicate building and capping of even, white combs still distinguishes them. He has kept about 50 colonies, on the average, from year to year, and has managed to care for them unaided in addition to his other labor.

He expects to keep bees as long as he is able to care for them; also his factory, in which he has very fine and costly machinery. Three things he has, therefore, aimed to be expert in, viz.: as physician, bee-keeper, and manufacturer.

His family consists of a dutiful wife and one son. A FRIEND.

"Bees and Honey"—page 485.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Will of the Queen—Big Profits.

MRS. ATCHLEY :—I see that Dr. Miller takes issue against you in regard to the will of the queen. A thought occurred to me when reading his reply, and I give it to you for what it is worth. If, as the Doctor maintains, the queen's abdomen is so compressed by the sides of the cells when laying in worker-cells, as to force fertilization of the egg, how shall we account for the fertility of the egg layed in the large, wide-mouthed queen-cell, as is done in natural swarming? Why does it not develop into a drone?

Fair Dealing, Ky. D. L. NELSON.

Friend Nelson, I do not think that Dr. Miller takes issue against me, exactly, nor do I believe that he is settled on that point, but he just argued the case in defence of some one else. He has not said that he was right, or that I was right. You see Dr. Miller is a "hard case," and he is fully posted, and up with the times, and he will fight back just to get something good out of us. The Doctor is dangerous, and we must watch him, or he will go trotting off, laughing in both sleeves at us.

You have probably heard of the two lawyers that argued a case before the court at daggers' points, then when court was over, they got into a buggy and drove off, laughing and talking together. Well, that is the kind of "lawyers" Dr. Miller and I are.

There is bound to be mechanical pressure, if a queen lays at all; but the pressure caused by the curve of the body or by the mouth of the cell, having anything to do with determining the sex of the egg, I say is all *bosh*.

Dr. Miller takes sides against me, or against an article that I wrote for the *American Farmer*, and calls my report of an average of $8.75 from a single colony in the hands of a beginner "fishy." I must inform the Doctor that this was not my estimate at all, but was made by about 20 farmers and beginners assembled together not long ago. Their average for several years back was 50 pounds for each good colony in the spring, and 50 pounds for the swarm; and I based my figures upon their decision. So you see, Doctor, I must be right, as what everybody says must be so. I know that the tale seems pretty "fishy," but the truth ought to prevail, and the hewer ought to go to the line, and let the chips fall as they may.

You see, the Doctor is away up in Iceland (Illinois), where they have about an eight-months winter, while we work with our bees ten months of the year. And if they miss a honey crop the first time, they seldom have a second or third chance as we do, which makes the difference. The beginners are the ones that usually get the most honey down here, as they only have a few colonies, and reap the full benefit of a large field, and are usually very attentive to their bees at first, and will do as you tell them; and, then, the bees in Texas have no more sense than to work and store as much honey for a beginner as a veteran. While the beginner, in a few years, begins to think he knows it all, and won't listen to anybody, he gets but little honey. Isn't that the fix with us "know-alls," Doctor? I used to think that I knew lots about bees, but find now that I am only an A B C scholar, catching at every "straw" that blows down this way from Marengo, and from all other sources.

J. A.

The North and the South.

I was indeed glad to learn that we were going to have a department for the South in one of the well established bee-journals, as there are so many points of difference, in caring for bees, between the North and our region.

While the bees of the North are shut up in their cellars, or buried under their quilts and chaff cushions, ours are bringing in pollen and small quantities of honey from time to time, and flying around the neighboring hives looking for cracks and crevices through which to enter and help themselves to their neighbors' hard-earned stores, and visiting even the kitchen and dining-room of our houses to see if we are setting out any honey or syrup or fruit from which they can help themselves.

While the Northern apiarist is dis-

cussing the winter problem, we are trying to prevent robbing; while he is springing his bees, we are in the midst of the honey harvest; and when his harvest begins, our bees are hanging out on the hives, "lazy" we call them; but let a flow of honey come, and we soon find it is enforced idleness, and not laziness that leads them to cluster on the hives.

When the flow from fall flowers in the North is over, our bees are still busy gathering their winter stores, and indeed there is not a month in the year when there is *no* honey gathered—not enough to support them without their fall stores, but some.

It has been, and is, to our great disadvantage that no text-book has ever been written expressly for the South. I am informed that a text-book will soon be issued, and hope all who need it will avail themselves of it as soon as it is published. While there are many good text-books for the North, they are only of use here in a general way. We need something of our own, and for ourselves.

Then, too, I hope many will take advantage of the opportunity to communicate through the columns of the AMERICAN BEE JOURNAL, for we need to know each other better, and this is a good way to become acquainted.

Long live the AMERICAN BEE JOURNAL, Mrs. Atchley, and "In Sunny Southland."

MRS. MINNIE WOOD GORDON.

Bloomfield, Fla.

Granulation of Honey, Etc.

Before I commenced keeping bees I thought, from what I had read and heard (mostly from honey labels, perhaps) that all pure honey would granulate in winter in the North, and that no kind would do so here in the South, because it never got cold enough. My experience has been that all spring and summer honey—all honey gathered up to the rainy season—will not granulate here, no difference how long it is kept, or how cold or hot it may be.

Our rainy season, as a general thing, begins in June, and ends in September. All honey gathered during and after the rainy season will granulate more or less, and it doesn't take cold weather to do it, either. In the bottom of the vessel it will be thick and sugary, and the top will be thin. Hence, we have been accused of adulterating our honey; therefore, I have quit extracting after the rainy season sets in, *i. e.*, for market.

I don't remember ever seeing sealed honey (in the comb) that was granulated, but I find in my hives now (Feb. 6th) unsealed honey that is granulated, thick and sugary, yet moist, but not liquid. It is not sugar, either, for I have not fed an ounce of anything the past winter, neither have the bees had access to anything of the kind.

Others think the difference lies in the different kinds of bloom from which the honey is gathered, as to whether it granulates or not, but I am inclined to think it is the weather, rain, atmosphere, etc.

My report for 1892 is as follows: I had 35 colonies, spring count. I extracted 2,052 pounds of very fine palmetto honey, and increased to 47 colonies. I have a fine strain of Italians that are beauties, and for gentleness and honey-gathering qualities they are far ahead of the blacks.

I am glad Mrs. Atchley has "In Sunny Southland" in the AMERICAN BEE JOURNAL. That is what we of the South have long needed.

J. H. HILL.

Grove City, Fla.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

April 20.—S. W. Wisconsin, at Wauzeka, Wis.
N. E. France, Pres., Platteville, Wis

May 2.—Connecticut, at Hartford, Conn.
Mrs. W. E. Riley, Sec., Waterbury, Conn.

May 4.—Susquehanna Co., at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y

May 18, 19.—South Texas, at Wharton, Tex.
T. H. Mullin, Sec., Eagle Lake, Tex.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Have You Read that wonderful book Premium offer on page 485?

Old Hybrids and Blacks—Would New Blood Improve Them?

Query 867.—I have 60 colonies of hybrids and black bees that have re-queened themselves for the past eight years, from their own progeny. They are prolific, healthy, and good workers. 1. Would you advise the introduction of new blood? 2. If so, from what race of bees?—Minn.

I think not.—A. J. Cook.

Let well enough alone.—A. B. Mason.

1. Yes. 2. Italians.—Jas. A. Green.

1. Yes. 2. Italians.—Mrs. J. N. Heater.

1. It might improve them. 2. Italian.—C. C. Miller.

I always believe in letting well enough alone.—Mrs. L. Harrison.

If they are doing good work, I would keep them as they are.—E. France.

1. New blood would no doubt improve them. 2. Italian.—J. P. H. Brown.

Pure Italian blood will always be profitable, and never injurious.—Dadant & Son.

I would introduce a few queens of the dark grades of the Italians, every year.—G. L. Tinker.

New blood of some good strain will put new vigor in your bees. Try Italian.—Will M. Barnum.

1. No, decidedly not, unless for some other reason than the prevention of inbreeding.—R. L. Taylor.

1. Yes. 2. Some good honey-gathering strain of Italians—bred for business, instead of color.—S. I. Freeborn.

I would let good enough alone. But if you really *want* new blood, I say Italian, of course.—Mrs. Jennie Atchley.

If they are doing well, let well enough alone. They may be just what you want for your locality.—H. D. Cutting.

1. If they were mine, I would introduce new blood, but I doubt whether their honey-gathering quality would be much improved. Their temper would. 2. The Syrians are my favorites, but as they are not in the market, I would take pure Italians.—M. Mahin.

An ounce of profitable experience is worth a pound of theory. But are you sure of the correctness of the first statement?—Eugene Secor.

1. Good, healthy, new blood should be introduced at the rate of say a couple of queens annually. 2. Italians, or Carniolans.—J. H. Larrabee.

I should say that the bees were doing well enough, but if I desired new blood, I should only introduce the best Italian or Carniolan stocks.—C. H. Dibbern.

1. Yes. 2. Italians, unless you are in a buckwheat country, or in some section where you have found that some other race does better.—P. H. Elwood.

1. I should not advise the introduction of new blood, unless it was desired for some particular and specific purpose. 2. I should advise in such introduction, tqe old, tried and proved-to-be-good Italians.—J. E. Pond.

If they were mine, I should try a fine Italian queen as the mother of all queens reared during 1893, allowing these young queens to mate with whatever drones they happen to. In this way I think these bees could be improved as to honey-gathering qualities, etc.—G. M. Doolittle.

1. Yes. 2. Italians, for the reason that they work a good deal on red clover, and are recommended by a greater number of bee-keepers than any other race of bees. (See Illinois State Bee-Keepers' Report for 1892—75 per cent. of the answers given were in favor of the Italians.)—Jas. A. Stone.

1. You should know best. If your bees suit you, and are paying a good dividend on the money invested, I see no reason why you should take other people's advice with regard to what to do with them. 2. For general purposes, the Italians are no doubt the best bees known at the present time.—Emerson T. Abbott.

1. Yes, it pays me to introduce fresh blood. 2. I prefer Italians for a *cross*. Put in some pure Italian queens, and encourage their colonies to rear large broods of drones, while you suppress the drones as much as you conveniently can in the other colonies. Don't be in too big a hurry about it. A great deal has been lost by hurriedly "Italianizing." I mean loss of surplus honey.—G. W. Demaree.

Report of the Indiana State Bee-Keepers' Convention.

Written for the American Bee Journal

BY WALTER S. POUDER.

(Continued from page 465.)

We will now proceed with our regular programme, which is an essay by Mr. J. F. Michael, of German, Ohio, on

The Rearing of Queen-Bees.

I esteem it quite an honor to be called upon to contribute my mite towards making this meeting a grand success, regretting, however, my inability to grapple with a question of such magnitude.

W. Z. Hutchinson, Editor of the *Bee-Keepers' Review*, says in the November number, "I feel safe in saying that in all probability the queen-trade of 1892 was not less than 20,000 queens. This estimate is based upon the queens reared in the United States alone." As the profits of the apiary depend largely upon the quality of the queens used, we, as queen-rearers, should try to maintain a high standard for the queens we place upon the market. The object, then, of this article will be, in a measure, to show how to rear good queens, as poor ones are dear at any price.

Remember not to crowd the capacity of the queen-rearing colony; if you do, poor queens will be the result. The condition of the queen-rearing colony must be good, whether this method, or some others are used. If queens are reared before swarming time is at hand, artificial means must be resorted to, so as to place the colony in a normal condition; but I very much doubt whether any financial benefit will be the result in trying to get ahead of the season. When warm weather has come to stay, and honey is coming in freely, select a colony whose queen is a good layer, and average in size—one whose bees will stand tumbling to the ground occasionally without becoming angry—and place a queen-excluding honey-board over the brood-chamber.

A second story, filled with frames of honey, hatching brood and frames containing eggs and larvæ can now be placed upon the brood-chamber, prepared as described above. These frames of honey, brood and larvæ should be taken from colonies that can spare them.

If the proper conditions have been observed, in a few days several queen-cells may be found upon the combs containing larvæ. Artificial queen-cells can now be made, and the royal jelly taken from these cells and a small portion placed in each of the artificial cells. Now procure a larva for each cell, of the queen from which you wish to rear queens, and with a quill tooth-pick transfer the larvæ to the cells; this being done, with the open end of the cell downward, push it into the comb near where the cells of royal jelly were found. Or, a still better way is to remove a portion of comb from the center of a frame, and while holding the frame bottom side up, fasten the cells by means of melted wax in the center of the comb.

These cells are to be placed between frames containing brood in all stages, or the bees will pay no attention to them. If the larvæ used are of the right age, the queens will hatch in 11 or 12 days. Experience will soon teach you the kind of larvæ to use. When the larvæ are too old, the queens are inferior in quality and about worthless. By using a sharp knife in reducing the comb to ⅛ of an inch of the septum, the minute grub can be transferred to the cells without much trouble.

Nuclei colonies must be made three or four days before the queens will hatch; and about one or two days before the queens are expected to hatch, give each nucleus a cell. If queen-rearing is extensively followed, the lamp-nursery may be brought into service. When removing cells from the queen-rearing colony, examine every comb carefully, for the bees often build queen-cells where they ought not to, and these will hatch out and do much mischief.

Frames containing brood in all stages must be kept on each side of the cells, or the bees may leave the cell and find work below with "mother and older sisters." The queen from which you rear queens should be in her prime, medium in size, a good layer, and her progeny good workers, as well as amiable in disposition. Late in the season, when nights become cool, the queens are smaller and darker.

One very important matter seems to have passed the notice of queen-rearers, and that is, to have an abundance of

good drones in the apiary. Should the bees crowd the queen-rearing department with honey, another story must be added filled with empty combs, keeping the cells in the top story, or exchange honey with a nucleus colony for a frame of brood; this will better the condition of both. In case the honey-flow stops, the feeder must be brought into use, or the cells will not be started, or, if started, will be torn down. The same colony may be used the entire season for obtaining cells.

Perseverence will enable a person to succeed in this business, as well as in any other occupation.

J. F. MICHAEL.

The foregoing essay was then discussed as follows:

Pres. Russell—We have now heard the essay read by the Secretary, in the absence of Mr. Michael, and would like to hear the opinions and remarks of those present upon it. Mr. Pouder, what have you to say about this question of rearing queens?

Mr. Pouder—I do not know of anything more to add than has already been said. I see Mr. Michael used the Doolittle method, which I believe to be the best one for the specialist, although I have never reared queens on that plan. I get my cells built in full colonies, and have a nucleus hive the same as an ordinary brood-chamber, and put three division-boards in it, which makes four apartments without interference with each other. I use the Langstroth standard frame and hive; they assist in keeping up the temperature. And, again, when a queen is disposed of, a division-board can be removed, thus allowing the bees to work with the next queen. Mr. Michael's method is a good one for the specialist, and I know that he rears choice queens.

Mr. Muth—This is a subject that has been talked of so often that it is an old one to the bee-keepers, but perhaps there are a few young bee-keepers here who would like to know how bees are reared, and so I will give a few ideas. It is a fact well worth knowing, that if one wants to rear queens, the cells should be reared in full colonies, and at a time when the colony has plenty of honey and plenty of old bees, as well as young bees. If feeding is necessary, then they must be fed. Now when the cells are capped is the time to make the nucleus. You make this by taking a couple of combs filled with bees, and placing them in a hive. After 24 hours cells may be given them safely. Bees must be in close quarters to prosper. Now we know that after the cells are capped a few days, we can cut them out and put them in the frames, but it is not necessary to fasten them to the middle of the comb. Take a pen-knife, cut a cell out and lay it between two combs, put the combs together so close that they will stay, or lay them on top of the combs. It takes but an hour or two before the bees have fastened it themselves. Thus, you can see at once when the queen is hatched. On the fourth or fifth day after the queen is hatched, she begins to lay. Good queens are only reared in very full colonies. She generally hatches on the 16th day after the egg is laid.

Mr. Catterson—I want to give my experience in building up colonies. Five or six years ago I had several nuclei, and after the parent colony had sent off a fine swarm, I had four or five cells; these I placed in the hives, and perhaps the second day after that the queens hatched. I was building up my nuclei to make them strong, and I gave them frames of brood and bees. About the third day after this I noticed that there was a young queen hatched, so I undertook to build up these nuclei, and by giving them combs of brood and honey, I built them up to good, strong colonies.

Mr. Manford—I have never had any trouble in rearing queens, but I don't do it in the way these gentlemen have told us about. I always double up my colonies at the beginning of the honey season, because it makes them strong, and then they can gather the honey. Then after the season is over, I do the dividing. As far as bees being killed in uniting, I have never had any trouble at all, and I have been in the business some eight years.

(Continued next week.)

Alley's Queen-Rearing book, or "Thirty Years Among the Bees," gives the result of over a quarter-century's experience in rearing queen-bees, and describing the practical, every-day work. By Henry Alley. It contains an "Appendix," showing the improvements made in queen-rearing the last four years. Very latest work of the kind. Nearly 100 pages, with illustrations. Price, postpaid, 50 cents; or clubbed with BEE JOURNAL one year, for $1.30.

Read our great offer on page 453.

Proper Size Brood-Chamber for Comb Honey Production.

Written for the American Bee Journal

BY GEO. F. ROBBINS.

I read with eager interest the replies to Query 857—"How many cubic inches should there be in the brood-chamber of a hive for the successful production of comb honey."

The drift of those replies is pretty much as I would have predicted. No less than nine of them—the most of them among the most prominent and successful comb honey producers in the country—favor a brood-chamber of 2,000 cubic inches or less, at least during the honey harvest. Four others use the 8-frame Langstroth hive, which contains about 2,070 to 2,205 cubic inches, according to the length of frame and the width of spacing allowed.

Another four recommended the 10-frame hive, only one of whom, I think, has been especially a comb honey producer—Mrs. Atchley. Prof. Cook and others may, by "standard Langstroth," mean the 10-frame hive. But neither Prof. Cook nor Mr. Pond, I believe, have ever made bee-culture a means of livelihood particularly.

Mr. Stone, with whom I have a more intimate acquaintance than with any other in the list, is a farmer, and does not make honey-production a very special pursuit. Only a few months ago I heard him say, in substance, that he did not take up bee-culture as a money-making occupation, but simply because he liked it. On hearing the remark, I said to him, "You would be a poor hand to instruct one who wanted to make a living by it." He answered frankly, "I know I would." None of these, then, are in any sense specialists in honey-production.

Dr. Miller, who changed from 10-frame to 8-frame hives, is not sure that he made anything by the change; but you know he is never sure he knows anything! It is evident, though, that after having tried both sizes, in his own mind the preponderance of argument is in favor of the smaller. So far as I know, Dr. Miller is the only prominent bee-keeper who ever advocated a small brood-chamber, or contraction of the same, that ever wavered in his adhesion to that system.

Mr. Hambaugh and the Dadants are the only ones who recommend a very large hive, and they are extracted-honey producers. The Dadants do claim to have tested the matter before the advent of the honey-extractor. How thorough that test was, I do not know, but it was certainly before contraction or small brood-chambers were systematically tried and adopted by comb honey producers.

These replies strongly, if not conclusively, indicate that producers of comb honey find sooner or later that they want a brood-chamber more or less contracted, at least during the honey-flow. More than that, I will assert that the more one studies and works to get every pound of honey his bees will store, and every pound his field will yield, the more pronounced contractionist he will be. This is a rule to which there may be exceptions, but they are rare.

Understand, it is the comb honey specialist who usually wants a small brood-chamber. In discussing this question of hives, we must always inquire what one wants a hive for. Bee-keepers may be divided with respect to the size of hive best suited to them, into three general classes, viz.: The comb honey specialist, the extracted honey specialist, and the general bee-keeper. It is not always easy to apply arbitrary distinctions. It would be hard to tell to which class some bee-keepers may belong.

The third class, however, would include the generality of farmer and lady bee-keepers, amateurs, and others who devote less time and thought to bee-culture than to one or more other kinds of business, or who do not make it particularly a dollar-and cent occupation—all, in fact, who are not pronounced specialists.

Bee-keepers of the first class want a small hive—not over 2,200 cubic inches, generally less—those of the second clsss want a large one of 3,000 cubic inches or more; while those of the third want one of a mean between these two—about 2,500 or 2,600 cubic inches.

The one who runs chiefly for extracted honey may work on the non-swarming system. Bees will not swarm,

as a rule, so long as there is a quantity of unfilled comb in the hive. By having a brood-chamber always large enough to accommodate the most fertile queen, and at the same time leave some considerable room for honey and pollen, with empty combs above in which to store the inflowing nectar, will generally keep bees from swarming—something that a brood-chamber of even 3,000 cubic inches with empty supers cannot be depended upon to do.

The majority of bee-keepers of the third class produce chiefly or exclusively comb honey. Usually they pay less strict attention to their bees than the specialist, and hence want a hive which will more nearly enable the bees to take care of themselves. That means one that will furnish all the breeding room necessary up to the beginning of the honey harvest, and allow perhaps one or two combs for pollen and honey. This, I believe, they have to the fullest extent necessary in the 10-frame Langstroth—about 2,600 cubic inches. That being enough, they do not want a larger one, as every extra inch of space below keeps that much honey out of the surplus department.

That larger brood-chambers have a tendency to delay and sometimes prevent swarming, is no doubt true, but it is because of the extra room there in which to store honey. Bees will not readily go into empty supers or build combs so long as there is a quantity of empty comb—ready made receptacles for honey—below. As soon as a flow commences, if the brood in an outside comb begins to hatch out, the bees will promptly proceed to fill the vacated comb with honey and seal it over. The upper half of the inner combs are filled up, likewise, until often the brood area is reduced one-half in a few days after the harvest commenced. They will even fill up isolated cells, and groups of cells all through the brood-nest, until there will scarcely be found unsealed brood enough left to fill half a frame.

At the same time the queen, under the stimulation of warm weather and a copious honey-flow, will lay faster than at any time before, if allowed unrestricted room. Yet, now she has to be most restricted, and since at the same time there are more nurse-bees than ever before, no wonder they swarm.

If, by any means, swarming is prevented or delayed, and the bees do get well to work in the sections, they will often go to emptying the brood-combs again, and carry the honey above. But swarm they usually will, sooner or later, we all know that. To get well under way in the supers tends to delay swarming, and the smaller the brood-chamber, and the more nearly filled with brood, the sooner the bees will go into the sections. Bees have to be coaxed or forced into surplus departments. Nothing but empty comb will coax them, and nothing but crowding to force—squeeze—them into the upper story.

Quite a number who use as small a hive as the 8-frame Langstroth, contract that at the beginning of the honey-flow. There is no doubt in my mind as to its advantages, but I have found the work tedious when I have to fill up the spaces with dummies, and I doubt if that pays. But to hive all swarms in brood-chambers contracted horizontally or otherwise, I believe will always find favor with many comb honey producers. I believe it to be better to have nothing but starters of foundation in the brood-frames. A super to put on, in which considerable of a start has been made, with a queen-excluder between, are important factors in the case. The bees will then do nearly all their work above. I have had swarms hived on five Langstroth frames to fill several supers, and leave some of the brood-combs about two-thirds completed.

I have seldom found it necessary to feed for winter, as a result of this practice. I unite to keep down increase, and in so doing I strengthen the bees up well for winter, and by selecting the fullest combs I can generally supply the reduced number of colonies with plenty of stores.

The apparent disadvantages of this system are the extra work and care required, and the greatest number of parts necessary to keep on hand, such as honey-boards, dummies, or brood-cases and frames, according to the style of hive used, requiring a greater outlay of capital, etc. I say apparent disadvantages, for there is no one, perhaps, unless it is the one man who never knows anything, who has ever systematically practiced contraction and expansion, but will tell you these investments all pay him. But forever bear in mind, it is only for him who makes the production of comb honey his specialty or leader—he who devotes the best powers of his mind to it—that such investments will pay. Remember also, he will get more honey from 100 colonies of bees, and make more money for the capital invested than he will who makes comb honey production a less special or exclusive pursuit.

One thing more deserves attention

here. Other things being equal, the more bees we can get in a colony by the commencement of the harvest, the better. It is also possible to get more brood in a 10-frame than in an 8-frame hive by June 1st. At least I can usually get 8 frames solidly filled with brood earlier when there is an extra comb in either side of the hive, than when 2 of the 8 come next to the hive walls. But it does not follow that it is essential to have the most bees at whatever cost. The possible half pound, or such, more of bees that one can get in a 10-frame than an 8-frame hive, would be that much better in the latter. But we are no better off with the slightly greater quantity of bees in the larger, than with the lesser quantity in the smaller hive, so far as the crop of surplus is concerned. I believe the reverse is the case. That is to say, as a rule, we can get the bees we can rear in an 8-frame hive into sections earlier than those we may obtain in a 10-frame, each colony in its own hive. The more bees the more honey, is no doubt true in the abstract, but it is not true in the concrete.

DIMENSIONS OF THE STANDARD LANGSTROTH FRAME.

On page 183 are given the dimensions of the Langstroth frame as 9⅛x17⅝. Some years ago Father Langstroth wrote to Mr. A. I. Root that the correct length of the standard Langstroth frame was 17⅜. Since that Mr. Root has called his frame the "Simplicity." Mr. Root was himself, I think, the first man to make the frame 17⅝ inches long, and I understand he did it in order to suit a brood-case in which a wide frame holding eight one-pound sections could be inserted.

Mechanicsburg, Ills.

Price of Extracted Honey in Years of Scarcity.

Written for the American Bee Journal

BY CHAS F. MUTH.

Wishing to make good use of a rainy, sleety afternoon in the country, which prevents exercise out-of-doors, I shall endeavor to answer a question raised by you or Mr. Root, viz.: "Why is it that the price of extracted honey does not advance in this year of scarcity?"

The idea seemed to prevail that adulteration was the cause of low prices, if I remember correctly. Such theory is not compatible with my experience, as we have never sold more honey for family use than we did during the last twelve months. We have, perhaps, never before sold as much in our square glass jars, almost all of which is bought for table use. Honey is cheap—so is all produce but hogs; they are staple, ruled very low for many years, and commenced to advance only a few weeks ago.

Twenty-five years ago, when honey was 35 cents a pound, the whole country did not produce as great a quantity as California, or as Florida, did in the past year of scarcity. Although they were the most favored States in America, neither one had more than 35 per cent. of their expectations realized; yet, those two States produced more honey in 1892 than there ever was consumed in America during any one year up to about 10 or 15 years ago.

Who in the world used honey for manufacturing purposes 15 years ago? Whoever heard, 15 years ago, of one manufacturer using 20,000 pounds of honey a month? We had several such customers during the late years. They have curtailed their orders, not because they are afraid of adulteration, but because we are charging them a cent or two more per pound than we did when honey was plentiful. This convinces us that honey is no staple article yet; it also proves the fact that cheap sugar has a bearing on the price of honey. Honey is the preferred article, there is no doubt about it, but it is considered "out of reach" by the manufacturer if the difference in price is too great between it and sugar.

There was a time in my own experience, when my own crop of 500 pounds of honey was an immense quantity. It was about that time when Ohio, or Kentucky, or Wisconsin, with present improvements, when either one of those States could have supplied the whole of North America in a good season. We all remember yet the time when good Southern honey went begging at 3½ cents a pound. The country was overstocked—there was an over-production. Why? Because the manufacturer had not yet learned the use of honey. Without the manufacturer, there would be an over-production in the past year of scarcity. He can do without honey, but offer it at a price which seems within his reach, and an over-production of honey will be a thing of the past.

Extracted honey has worked itself in as one of the family necessaries, to a very great extent, especially among the working classes, while comb honey will

remain a family article, and "on the shelf," unless it looks inviting, and its price is acceptable.

I was amused when Prof. Cook and his students could not tell the difference between syrup fed to bees and genuine honey, and I wondered whether they would have taken it for clover or for buckwheat honey. They certainly have poor tongues. The tongues of the public would not be so easily deceived.

Cincinnati, Ohio.

California Apiarian Exhibit and the World's Fair.

Written for the American Bee Journal

BY W. A. PRYAL.

Visitors to the World's Fair need not spend much time in looking for California's display of honey and beeswax. The reason of this will be a good deal like that of the small boy who was eating an apple, and was asked by another lad to give him the core. The latter was promptly told, "There won't be no core." Well, the truth now seems to be that this State will not have any "core" or anything else to its honey exhibit, for the simple reason, as I have intimated, that there will be no exhibit.

It may seem strange that the leading honey-producing State of America will not make a showing of its products of the bee-hive at the greatest show ever held on this continent. But it is apparently a fact, nevertheless.

The matter of an exhibit was discussed at the convention of the California State Bee-Keepers' Association, held at Los Angeles, early last February. It was then expected that the California State World's Fair Commissioners would do something toward arranging for a creditable display of our honey. Under this supposition a number of bee-keepers who were present at said meeting, expressed a desire to send some very fine samples of honey to Chicago. Some of these apiarists were to contribute packages of our famous white sage honey, others some of our mountain alfalfa, others alfalfa from the San Joaquin plains, while others were to send sumac and other varieties.

I did not express myself on the matter of what I might possibly send to the Fair, but I had been considering a plan of sending about a dozen flat display glasses containing as many grades of honey gathered here in the vicinity of San Francisco bay. This collection would have embraced eucalyptus, alfilaree, wild rape, and other sorts. Then, there were to be some neat displays of beeswax made by some of our southern Californian apiarists. Taken all together, the showing our honey-producers were to have made would be a credit to the State. But now, alas, the whole thing is "knocked into a cocked hat."

What little honey that will be sent on from here will be in the county exhibits; if these are no better than some of those I have already seen, they will not be anything to be proud of. Those who have had charge of these exhibits have, in the great majority of cases, been thoroughly incompetent to attend to the getting up of an agricultural or a horticultural exhibit.

In one instance, I have known a County Board to take a man who was a good judge of leather and wax-ends, to collect a fruit exhibit of one of the finest horticultural counties in California. Of course, in the first place, the fruit men were not going to do much for such a man; they lost confidence in a concern that would pick out a man to attend to such a matter who was unfitted by past experience for such work. It is needless to say that the county I refer to has a miserable show of preserved fruits in great big jars. Some of the insignificant cow counties have a far better showing. Too much politics have been the cause of all these failures in getting the right man for the right place.

But I am drifting away from the main part of the subject I started to write about. It was the *reason why* our California bee-keepers are not likely to make any display of honey in the California, or, for that matter, in the other buildings at the big Fair.

Two years ago the legislature of this State appropriated $300,000 to pay for a building and the means of having a fine display of our products exhibited in this building. A Board of commissioners was appointed to make all the necessary arrangements. These arrangements were very well carried out as far as making places for a swarm of useless officers was concerned. They have used up about the best part of the money appropriated, in paying themselves, so it is said. The way things were carried on here occasioned a good deal of ill-comment. Of the way things were run, I won't say anything more.

When the bee-keepers came to find out what was to be done for them, they learned that if they wanted to make an exhibit, and have it properly cared for, they would have to do it at their own

expense. Otherwise, they would have to take "pot luck" with the other truck that would be dumped in the California building. A case would be provided in the State building; the honey and wax could be placed there by some of the incompetent employes of the building—possibly a cobbler or a grave-stone carver.

This has been very unpleasant news to the apiarists of this State. I have heard that they are going to keep their honey at home; and, in fact, some have gone so far already as to say that they won't go to the Fair; that a concern that is run in that manner deserves to be boycotted.

It is too bad for this State that the management fell into the hands of a lot of men who cared for the patronage that the positions afforded them, more than for the general welfare of the State. From my own observation, I know this to be the fact with some of the county committees. It is a matter of common comment here that the State Board has been doing things in a rather queer manner. It is bad enough for other industries to suffer at the hands of such men; but as the bee-keeping industry has received less encouragement in the past from the State than any of the other industries, it was hoped that the managements of the State and of the World's Fair would have gladly given a helping hand to our infant industry.

But the hopes of California bee-keepers are shattered. They get no more from the commissioners indicated than they get from the State for other purposes of their calling. The only thing they have a hope of obtaining this year, which will be of any practical benefit to them, is an apicultural department in connection with the State University.

North Temescal, Calif.

[For editorial remarks on Mr. Pryal's article, see page 488.—ED.]

The Paddock Pure Food Bill and a State Law.

Written for the American Bee Journal

BY WM. LEERS, PHIL. D.

From many sides it has been urged to make all possible efforts to secure the passage of the Paddock Bill to prevent the adulteration of food, etc.—a Bill in which bee-keepers are highly interested. It is indeed a vital question for bee-keeping. Said Bill will be a strong "adjurans" (as physicians say) to State laws against adulterations, but (I am sorry to say it) stop the same, it will not. Its best result will be to cut off the defense to be made in State courts, that the adulteration was committed in another State or foreign country. Enough holes to evade condemnation will be left. One I will point out. The word "knowingly" is so often and so emphatically used in the Bill, that it will hardly be overlooked by a tolerably attentive lawyer as an easy escape.

The law of New Jersey, passed in 1879, would be more effective. Its third section is worth more than the whole Paddock Bill. The adulteration by "feeding" was not then known, when the New Jersey law passed, but since that time it has become of the greatest importance, and should not be overlooked.

Section 10 of the Paddock Bill provides for the sale of the adulterated foods, but here a different treatment was wanted. Foods which contain ingredients noxious to health, should be destroyed, while others, which are only a fraud on the pocket of the public, may be sold. (In Europe, e. g., bread, which has not its full legal weight, is sequestered and given to the poor, while it is destroyed if it contains noxious ingredients.)

Of greater importance, because of greater benefit, than the Paddock Bill, would be for Illinois a State law resembling the above cited law of New Jersey, with a provision against "feeding" of cane-sugar or other substances not gathered by the bees.

Gleanings, in 1879, page 229, advocated petitions against adulteration to the legislature of Ohio, and offered blanks for it gratis. I did not hear of any result. As Illinois had the same interest, I wrote to Mr. Dadant, who, some time prior, had shown so great a zeal for the matter, but he found it not advisable to take steps in that direction, as adulteration of honey had nearly all died out, on account of the low prices of honey, making it unprofitable. That it would revive as soon as the fraud would pay again, he overlooked.

In all other branches of production, poor harvests and high prices alternate with good harvests and low prices, and the loss of the producer of one is compensated by the other. In bee-keeping it is otherwise. When the season is good, the price is low; when it is poor, at once the adulteration is on the place, and skims off the fat of the soup.

The provision against "feeding" of inferior sweets is indispensable. The

omission of it in the enumeration of the different modes of adulteration, would make the law nearly inert—inert at the most vulnerable place. Comb honey was until now deemed honest, and a pure product of the bees. Destroy the confidence in it, and the consumption of honey will be diminished more and more. That will be the effect of feeding sugar. *To bury in silence the fact, does not help.* The manufacturers will take the care to promulgate it. It is in their interest. They will boast now that bee-keepers also are dishonest; their comb honey also adulterated. Why pay more for flower-honey than for sugar-honey, if they are identical?

In all the courts of the old continent—England excepted—the omission would do no harm. They would say, the gist of the law is suppression of adulteration, and the enumerating of its different modes is merely enumerated, not restricted, and *salus populi summa lex esto.* But in the United States the construction of the law would be different. I will say nothing for or against either, but the fact is undeniable, and must not be overlooked.

Steps for securing a State law for Illinois should be taken *immediately*, as the time is short to get it through the legislature, and the session being closed it would be another two years before the Bill could be brought again.

About the conviction of the adulterators, I will speak in a subsequent article.

Sigel, Ills.

[The above was written before the Anti-Adulteration Bill was published, on page 263, which was to have been presented to the Illinois State Legislature. We have not heard anything further from Mr. Stone regarding it, whether it was presented or not.—ED.]

Darkness, Dryness, Dormancy—Three Wintering Essentials.

Written for the American Bee Journal

BY J. A. PEARCE.

Darkness, Dryness and Dormancy—these three are the essentials for inside wintering of bees. We sometimes think we have a repository dark, when it really is not; somewhere light is creeping in, that we do not notice, but if we remain in it for 15 minutes, we can see that it is not perfectly dark. It should be made "as dark as a stack of black cats."

Dryness. When we speak of this, we mean the inside of the hives. This, I think, can be secured in almost any repository by just covering the hives with quilts or straw-board sufficient to keep the bees warm, and yet let the moisture that so gradually accumulates as steadily pass off, with the entrance below fairly open. This is the fault frequently with hives becoming damp, simply because there is not ventilation enough below. This, I think, is the fault with a great many chaff or packed hives that would be perfect only for that. Old box hives used to winter well frequently out on the summer stands, with an inch block under each corner. You cannot cool off the top of a box that is all tight above very fast, especially where there is a good cluster of bees to generate heat; but if they are so close that moisture accumulates, they soon become diseased and die.

In a state of nature the bees have the thick shell of the tree with considerable rotten wood around them, that makes a good absorbsent, and they usually have a good-sized opening, and in this way they winter well. A good cluster of bees, with plenty of good stores, can resist a great amount of cold, if they are only kept dry.

Dormancy, quietude. This is the indicator that will be thrown out if everything is all right. If I go into the cellar and I cannot detect any sound, or just a gentle murmur, as you hear sometimes from a far-away, gentle, running stream in the woods, I know that my bees are doing well; but if they are roaring loud enough so you can hear them in the next room, you had better look out, for something is the matter. This is true of bees or people. If any number get to holding mass-meetings, or parading the streets for bread or for other causes, that government over them had better investigate, for there is something wrong.

To secure this dormancy, then, we want the darkness and dryness, with plenty of good stores, and a temperature from 42° to 45°, as nearly as we can make it stay there. With these conditions observed, we ought to get our bees through all right, so that we could have a supply of honey before the public all the time, like tobacco men do with their product, and try to imitate them at least in the tasty and showy manner in which they display their product.

Grand Rapids, Mich.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Curing Bee-Diarrhea.

I have read in various papers that bees were subjected to a disease known as "diarrhea, and that no remedy for it thus far had been discovered. I have been interested in bee-culture for 20 years or more, and not until recently did I know what to call this disease, although my bees have frequently been infected with it. The winter of 1892 it attacked one colony, and by spring they were all dead. This winter it entered another hive, and the bees began to die until two-thirds of them were gone. Thinking that they would all die anyhow, if left in this condition, I resorted to an experiment, to see if there was any cure for it; the experiment proved a success, and the bees are as free from it now as if they had never been attacked by the loathsome disease. JOHN K. REGER.

South Branch, N. J.

[We should be pleased to have Mr. Reger describe his cure for bee-diarrhea, for the benefit of the readers of the BEE JOURNAL. —ED.]

Packing-Case Method of Wintering.

I make packing-cases 6 feet long, 30 inches wide, and 3 feet high in front, and 2 feet at the back, with roof of good shingles, and separate from the case. The boarding in front extends to within 6 inches of the bottom, at which point a shelf 4 inches wide extends inward, against which the hives are placed.

Each case will contain three hives, which rest upon 4 bricks placed on the ground. The cases have no bottom, and are set over the hives and rest on bricks. The hives are put 6 inches from the end, and the center one in the middle. This arrangement leaves a space of 4 to 6 inches on every side, and 12 to 16 on top. I pack it full of dry leaves, and place the roof on, when it is ready for winter.

This method of packing leaves 6 inches of the hive in front open to the weather, and nothing to obstruct the entrances, which are 4 inches wide. All moisture will condense on this side and run out, leaving the rest of the hive dry at all times. Each case is made of good pine boards, and No. 1 shingles are used. I give them two coats of paint. The total cost is $1.50 each, and they are good for 20 years.

About June 1st I remove the packing, and raise the case 6 inches, by means of bricks placed under the bottom, and leave the cases on all summer. In hot weather I raise the back of the roof 4 inches for ventilation. I am successful in wintering bees this way, and lose none.

In the winter, during storms, I set up a board in front for a storm-door, and keep all ice out of the entrances. I allow 30 pounds of honey to each colony, including bees and comb. I wintered 10 colonies last winter, and all came through safely, the hives full of bees, and all wide-awake.

Dearborn, Mich. C. W. LEARNED.

Bee-Keeping in "Egypt."

My bees are doing well, gathering pollen and some sweets from maple. Elm is in full bloom, and peach trees will be in a few days. I have young bees hatched out already. All my colonies are strong this spring. If there is a good honey-flow, I will reap a rich reward.

ALLEN SPRINGER.

Rose Bud, Ills., March 20, 1893.

Long and Cold Winter.

We have had a long and cold winter this time, but it seems to be about broken up now. Several of my colonies froze to death, leaving behind them plenty of stores —something that has not happened in my apiary since I have been in the business, which is about 25 years. I think it was caused by insufficient ventilation. I always winter my bees on the summer stands, but they are roofed under, and otherwise well protected. ELISHA CARY.

Doylestown, Pa., March 19, 1893.

Over-Stocking and Over-Production.

During the earlier years of the present system of bee-keeping, when the demand for comb honey in sections was invariably in advance of the supply, the product readily brought from two to three times the present price; but this condition was too good to last. Every pioneer in the new system, who was fairly skillful, awakened scores from their Rip Van Winkle slumbers, and as visions of speedy wealth rose before them, there was a rush for movable-frame hives and the necessary accompaniments. And no wonder, for with honey selling at from 30 to 40 cents per pound, a large apiary well managed was a bonanza.

With such brilliant prospect in this line, the number of bee-keepers was greatly multiplied, all discontinuing the practice of killing the bees for their honey, and giving the business the advantage of whatever knowledge or skill they possessed. It is needless to state that one result has been

over-production, and very low prices; that another result is, the older portions of the country are badly over-stocked with bees. As conditions now exist, the bulk of bee-keepers cannot make the business pay, and would gladly quit it if they could realize anything near the cost of their investments; and the sooner they sell out the better; for what show is there at this time of sharp competition and low prices for any but experts?

Among apiarists poor seasons have become a general complaint. In fact, in the East each one of the past six years has in turn been pronounced a very poor season for bees and honey. Now, is not this unsatisfactory condition largely attributable to over-stocking? I firmly believe that if the stock of bees could be reduced a hundred per cent. in this section of the country at least, apiarists would be rewarded by more surplus honey, and hence far greater profits. Indeed, it has become a pressing necessity that we decrease our bees, and increase our honey flora, or capture, civilize, and domesticate the savage "Apis dorsata." For one, I strongly favor making a conquest of the great bee of Ceylon. If brought under the control of apiarists, and successfully introduced into this country, it would probably double our honey-production, as well as add millions to the agricultural interests by the fertilization of the larger clovers. S. S. BUTTS.

Wyalusing, Pa.

Lost Only 3 Out of 30.

My bees have wintered finely during the long siege of winter. I had 30 colonies, and have only lost 3, and those by diarrhea.

GEO. L. WINTERS.

Sherwood, N. Y., March 20, 1893.

That Horse-Blanket and the Bees.

Mr. C. Reynolds asks, on page 405, who can account for his bees fighting that horse-blanket. Don't you think it was the smell (!) of the ice (on that dirty horse-blanket) which had been wrapped in it, that angered the bees so? I can only think of one other cause, which is so simple that I dare not mention it. W. HARMER.

Manistee, Mich.

My Experience with Bees.

Three years ago I procured one colony of hybrid bees in a double-walled chaff hive. I placed them on a stand on my lot and awaited results. I expected to notice a bunch of bees as large as a half bushel, hanging in front of the hive, as a warning to me that they were going to swarm, but, to my surprise, they gave me no such warning, and the consequence was, two swarms left for parts unknown, and I captured the third one of the first year. Those wintered nicely and gave me three good swarms the second summer, which also wintered well the second winter, and gave me 18 swarms last summer, which I doubled up to nine in the fall; so that I commenced the winter with 14 colonies, all in chaff hives on the summer stands.

I use all Langstroth hives of my own make. I have had some strange and laughable experiences with my few colonies of bees, if I were to relate them, as I suppose all beginners have. This winter has been very disastrous to bee-keepers in this locality. Out of the 14 colonies I have lost 3 from diarrhea, I think caused by long confinement. My bees did not have a cleansing flight for 3½ months—in fact, there was not a bee to be seen outside the hive from Nov. 15th to March 1st. One of my neighbors has lost 30 colonies out of 42, fall count.

There are a great many engaged in bee-culture to a small extent in this locality, but only a few who go into it extensively. My honey yields have been very small, as I have run for increase, as will be seen by the 18 swarms from 5. D. W. HEISE.

Bethesda, Ont., March 13, 1893.

The Season of 1892.

The bees came through the winter of 1891-92 very strong, and with very small loss, but the spring was very cold—the worst in 14 years—and the bees did not build up as fast as usual. The forepart of clover bloom it rained so much that there was no honey in it, and as it was not the basswood year, we did not get much from basswood. As we do not have any fall flowers of any account, we therefore have to feed more or less every year.

Addison, Vt. E. J. SMITH.

Gathering Honey from Sugar-Cane.

The last time I extracted honey was on Oct. 5 and 6, 1892, when I only extracted 8 out of 10 frames from the top of Langstroth-Simplicity hives, which were very full of honey at that date. We have 65 colonies all in good condition, on summer stands now (Feb. 7th).

I was surprised to see my bees bringing pollen and honey, and I wondered where they could gather *honey* in the winter, but I think I have solved the mystery. In November we cut our sugar-cane for grinding, and saving seed cane. I noticed the very day the cane was being cut down, bees were about in great quantities, sucking the saccharine matter from the stubbles and ends of top cane. I wanted to write to the BEE JOURNAL at the time, but I was afraid to make a blunder, and could not prove what I wrote. But now I am sure of what I write. Bees gather honey from stubble-cane, and pollen from the woods, in this month of February. All my bees are on the summer stands, and seem to have more honey now than they had on Jan. 1st.

From what experience I have had in bee-culture, since two years, I believe it can be made very profitable here under proper management, the climate being a great

factor in our favor. I am almost afraid to write, being a novice in bee-culture; but from what I have so far practically gathered, information that is substantial, I really believe that bees can gather honey from cane stubbles, here in Louisiana, and stay all winter on the summer stands, and do better than they do in the North, where they must go into the cellar for 4 or 6 months.

This week came our planting of sugar-cane, and our dear little friends followed us to gather all the saccharine matter they could find, and I must admit that all of our colonies are in good condition, and doing well. P. E. COUVILLON.

Carencro, La.

Cellared Bees Wintered Best.

Bees left on the summer stands the past winter suffered severely. Those in the cellar never wintered better.

ABEL GRESH.

Weedville, Pa., March 31, 1893.

Still Thinks it was a Queen.

Many thanks for reply on page 403. It is hardly probable that my letter was at all interesting to any one but myself, and I admire the patience of the editor to publish so many questions from greenhorns like myself.

It is quite humiliating to have Dr. Miller insinuate that we cannot distinguish between a queen and a worker. There is some consolation, however, to think that he "sized me up" as possibly being a Hercules; but the fact is, my "pugilistic bump" is quite, if not altogether, undeveloped; *i. e.*, I have not had the "sand-bag" practice to make a success in any maneuvers, *a la* Corbett; besides, the distance between Marengo and Bishop Hill makes it quite safe "along this line."

The reason I think it was a queen is, after I found and captured her, I started for the house to show her to Mrs. L., when quite a number of bees followed, alighting on my hand and caressed the queen in a manner that I have noticed several times before in manipulating with queens under like circumstances, which, in my mind, is conclusive evidence that the bees regarded her as their *queen*, although she was worthless.

Again, I never saw bees do that when I would take a worker in like manner. Has Dr. Miller?

Bees gathered the first natural pollen on March 28th. The weather is fine, and we have good reason to ask, as did our friend A. recently, who saw a spider descend from the ceiling, and landing on his work bench. He pointed to it, and calling our attention, he said: "Ish dot shpring means?"

D. LINDBECK.

Bishop Hill, Ills., April 1, 1893.

"Bees and Honey"—see page 485.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, April 15th, 1893:

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

CINCINNATI, OHIO.—There is a fair demand for extracted honey at 6@8c. There is no choice comb honey on our market, and prices are nominal at 14@16c. for best white.
Beeswax—Demand good, at 24@27c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Comb honey is well cleaned up. Fancy white is selling at 14@15c. Off grades, 12@13c., and buckwheat, 9@10c. Extracted is dull, and the market well stocked with West India honey, which sells at from 68@75c per gallon. Beeswax, 26@28c,
H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

MINNEAPOLIS, MINN.—The market is good. We quote: Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; In 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

ALBANY, N. Y.—Honey market quiet at following prices: White comb, 14@15@16c; mixed, 12@13c; dark, 10@11c. Extracted, white, 8@8½c; mixed, 7@7½c; dark, 6½@7c.
Beeswax, 26@30c. H. R. W.

Mrs. J. P. Cookenbach, whose advertisement appears on page 483, will be glad to have you write to her to secure a good place to stay during your visit to the World's Fair the coming summer. The BEE JOURNAL refers its readers and friends, with much pleasure, to Mrs. C., who will do the right thing by all who give her an opportunity to help them.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. Co., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

FOR SALE—360 pounds good Wax; 30 cents cash gets it. As to our responsibility we refer to Deposit Bank, of Eminence, Ky., or G. W. Demaree, Christiansburg, Ky.
E. DRANE, Eminence, Ky.

WANTED—Foot-Power Lathe for metal; Portable Forge and Anvil. I will exchange Honey, Bees, Queens, or good Bicycle.
14Atf J. A. GREEN, Ottawa, Ill.

WANTED—To exchange, a claim 1 mile from a thriving town in Logan Co., Okla. Ter., for land in Northeastern Texas. Southwestern Arkansas, or Northwestern Louisiana, contiguous to a river, in a good bee-keeping range. Correspondence solicited.
Address, RUFUS WILLIAMS,
15A4t Crescent City, Logan Co., Okla. T.

Advertisements.

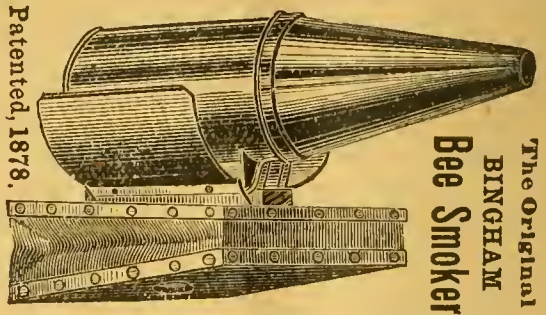
This Adv't will Appear but Twice!

WE have on hand the following widths of Planer Sawed Sections, First Quality: 1 15-16, 1¾, and 7-to-the-foot—all 4¼x4¼ One Piece V-groove. Parties using said widths can get a bargain by writing for prices.

Our Polished Sections

are the finest and smoothest Sections made. Write for prices.
WAUZEKA MFG. CO.,
16A2t WAUZEKA, WIS.

Best On Earth



More than 100,000

BINGHAM & HETHERINGTON

Honey-Knives

—AND—

Bee-Smokers

IN DAILY USE.

Illustrations sent free.

Bingham & Hetherington,

5Atf ABRONIA, MICH.

WE SELL

OUR **Polished** 4¼x4¼ 1-Piece V-Groove Sections, guaranteed as smooth as any note paper, at $2.50 per M. Parties wanting more than one M should write for Catalogue and prices. Parties using **Second Quality Sections** can get a bargain by writing for prices. **WAUZEKA MFG. CO.,**
2Atf WAUZEKA, WIS.

30 THIRTY YEARS' EXPERIECE. 30

Try Our Hardy Strains of Bees.

Leather-Colored Italians and Golden Carniolan. Qualities: Extra honey-gatherers, long-lived and winter well. To each customer we present one copy of the March "Api.," giving our latest method to Rear Queens. Queens—$1 each. Cat. free. HENRY ALLEY, Wenham, Mass.

The Golden Beauties!

MY **Italians** cannot be excelled in the world for Honey, Non-Swarming, Prolificness, Gentleness and Beauty.

One Warranted Queen, 75 cents; on orders for 5 or more, 10 cts. discount. Tested Queens $1.00 each. Safe arrival and satisfaction guaranteed. Address, **C. B. BANKSTON,**
16Atf CHRISMAN, TEX.

BUY your **HIVES** where lumber is cheapest. That's at LeSueur, Minn. Catlg. free.
24Atf **F. C. ERKEL.**

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., APRIL 27, 1893. NO. 17.

From the brooklet, from the rushes
Come the merry song of turtles ;
Hark, in tuneful songs the thrushes
Join the chorus, from the myrtles.
There they're cooing, there they're billing,
Each in notes most sweet and ringing.

Say not 'tis the turtle's wailing
Of the sorrows that are nearing ;
Say, instead, that new life's creeping
In the veins of all that's sleeping.
"Winter's past and Springtime's coming,"
Is the news the bees are humming;
And the birds are clearly singing,
"What you've longed for Spring is bringing."
—Vick's Magazine.

The Bee-Escape was first so-called by Mr. G. W. Demaree, of Christiansburg, Ky. He exhibited a "bee-escape" in Lexington, Ky., in 1881, at the meeting of the North American Bee-Keepers' Association.

Scraps of Quotations from some noted authors are now fittingly placed at the head of some of the contributions for the *Review*, indicating something of the nature of the article that follows. Editor Hutchinson says he puts them there, but "they are not always of his choosing." We just believe that they are made so appropriate by reason of the loving efforts and thoughtfulness of some angelic presence in the home of the *Review*. Now, didn't we guess it, Bro. H. ?

Mr. N. Levering, of California, begins with the April number to conduct "The Apiary" department in the *California Cultivator and Poultry Keeper*, published at Los Angeles. In his "Salulatory," Mr. Levering says that he believes he originated the first apicultural department ever published in Southern California, in the Los Angeles *Herald*, in 1876, and was chosen its editor by the Los Angeles County Bee-Keepers' Association, and re-elected to that position for a number of consecutive years thereafter. In 1882 he published the *Californial Apiculturist*, the first and only paper that was devoted exclusively to apicultural interests published on the Pacific Coast.

Trade Notes is the name of a new department begun in *Gleanings* for April 15th. It is intended to "keep track of and describe all recent useful improvements" in bee-appliances. Bro. Root will "sit on the judgment seat," and try "to be as impartial as possible." Only devices or ideas that he considers worthy of notice will be described. It will be an interesting feature of what is already as nearly perfection in the way of a bee-periodical as can well be attained. But Bro. Root seems to want the "perfectest" kind of perfection; and he'll have it, too, as *Gleanings* is *well Root-ed*.

Herr Reepen, of Germany, who reports for the BEE JOURNAL the most important apiarian events occurring in "The Land of Dzierzon," we are pleased to say has been selected as delegate to the Columbian Exposition for the Kingdom of Prussia. We hope he may be here when the North American Convention is in session, so that it may be honored with his presence.

The Bee-Keepers' Enterprise is the name of a new bee-paper to be first issued on May 15th, by Mr. Burton L. Sage, of Connecticut. In his advance notice, Mr. Sage says it "will contain not less than 12 pages and cover; same size, and much after the same style of the '*Review*.'"

We wish the new paper all the success its publisher may hope for, but really he must be an *enterprising* man who can venture to now start a new periodical devoted to bee-culture in view of the numerous poor seasons of the past few years; but let us all continue to hope that those unprofitable years may indeed be *past*, and that the immediate *future* may have in store such unusual prosperity for both producers and publishers, as shall fully compensate for the trying times which all have been compelled to endure.

Editorial Assistance, we claim the right to secure whenever we deem it best, in order to make these "Buzzings," etc., as interesting and profitable as possible. While we may do this, we of course hold ourselves responsible for whatever may appear as editorial matter, just the same as though we had written it all ourselves. Nearly all the large daily newspapers and monthly literary magazines each have numerous editorial writers now-a-days, while only *one* real editor decides as to the suitability and value of the matter submitted for publication by the various assistant editorial contributors. By so doing, the whole periodical becomes correspondingly more valuable to its readers, and the labor is thus lessened individually by reason of its division among several persons.

"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.70.

For Indiana Bee-Keepers.—Hon. B. F. Havens, one of the Indiana Executive Commissioners, sent the following, dated April 22nd, to Mr. Walter S. Pouder, of Indianapolis, with the request that it be published in the AMERICAN BEE JOURNAL. Indiana bee-keepers should read it carefully:

An Appeal to Indiana Bee-Keepers:—

Fifteen feet of show-case, 5x6 feet, has been purchased for the State Honey Exhibit at the World's Fair. Will you furnish from your apiary any portion of this exhibit? It now remains with the bee-keepers of this State to see to it that this space is well and appropriately filled, and we fully believe that your State pride, with our abundant resources, will prove you fully equal to the undertaking.

Mr. Sylvester Johnson, well known among the bee-keepers of this State, has kindly consented to look after the Indiana exhibit. He will be at the Fair grounds throughout the time of the exhibit, and will do all in his power to see that exhibits are properly arranged.

We are depending entirely upon this year's product, and consignments can be made in July. Plan your exhibit to occupy a space 2½ feet square, and 5 feet high, pack carefully, and ship by freight to B. F. Havens, Dep't. A, Agricultural Building, Jackson Park, Chicago, Ills. Freight must be prepaid, and at the close of the Exposition the goods will be returned to your shipping-point free of charge. No cash premiums will be paid from the State appropriation, but awards will be made by diploma.

I trust that you will make application for space at an early date, when more explicit directions will be sent you. Address me at "Indiana State Building, Jackson Park, Chicago, Ills.," giving me positive answer, as to whether you will furnish an exhibit or not. I will send you full shipping directions upon notification that you will furnish an exhibit.

B. F. HAVENS,
Executive Commissioner.

J. Van Deusen & Sons, the wired comb foundation makers of Sprout Brook, N. Y., wrote us on April 20th, that "bees in Otsego country are coming out in good condition." As usual, reports are quite varied this spring. Some have lost no bees in wintering, while others have lost all. On the whole, however, we think that there was less loss than usual the past winter. Of course, the "springing" part is not yet over.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Foundation Starters with Separators.

Is it necessary to place foundation starters in one-pound sections with separators? If so, why?

Gaston, Oreg. LOUIS WILCOX.

ANSWER.—Yes; unless you use starters of foundation or comb, the bees will be likely to make very crooked work, and make a good many sections so they could not be taken apart.

Test for Purity of Queens.

If all the workers are three-banded, is that conclusive evidence that the queen is pure, and that she is purely mated?

My experience says no to the above question; and that the only true test of a pure queen, and that she is purely mated, is the production by her of pure queens, or queens with the proper markings. If we would keep our stock pure, it is essential that we know how these things are. H. F. COLEMAN.

Sneedville, Tenn.

ANSWER.—Others have thought with you, but the difficulty of carrying out the theory in practice seems to have resulted in settling the rule that three-banded workers are taken as evidence of purity of queens. The markings of queens from unquestionably pure mothers you will hardly find uniform enough to make the task of deciding an easy one.

Perhaps it was Moisture.

I began bee-keeping in the spring of 1891, with one colony, increased to three, and for want of knowledge only got 40 pounds of comb honey. They wintered well on the summer stands in chaff hives, and last year I increased them to 7 colonies, and got 250 pounds of comb honey. All were in chaff hives with plenty of stores for winter. The 2 stronger colonies have had honey running out at the entrance. What is the cause? Is it the moth? If so, how will I know it? and what will I have to do with them? JOHN BAGSHAW.

Vroomantown, Ont.

ANSWER.—Are you sure it wasn't moisture from the bees, instead of honey? If there was much dampness in the hive, it is just possible that some of the honey might get thin enough to run out. If the work of worms, you can tell it by taking out the combs and examining them. Then you can dig out the worms with a pen-knife. But the fact that the strongest colonies are affected, hardly points to worms as the cause. Moisture would be more likely to run out at the entrance of a strong than a weak colony, and might look very much like honey, but the taste would decide it.

Transferring—Extracting Pieces.

1. Will you tell me the best method to transfer bees from a box-hive to the Langstroth hive? I have 27 swarms in the box-hive. They are in fine condition, and have been carrying in pollen fast to-day. Would you cut out the old comb and fit it in the frames, or would you give them foundation and drive out part of them, leaving the balance 21 days, after Heddon's plan? I intend to work them for comb honey.

2. Can I extract the honey I take out of the old box-hive, with an extractor?

O. H. KEYES.

Oran, Mo., March 13, 1893.

ANSWERS.—1. You will probably like the Heddon plan of transferring best.

2. Yes, you can extract from the old combs, but they are not so easy to manage as straight combs in frames. If very crooked, you may have to cut them up a good deal, and for the small pieces you will need some kind of a comb-basket that will hold them.

Robber Bees—Straw-Board Separators

1. What is the best way to prevent robbing when bees are put out in the spring?

2. How can it be stopped after robbing has begun?

3. Can common straw building-paper, or any other kind, be used successfully for separators in the section supers?

Melrose, Wis. H. N.

ANS.—1. Try to have all colonies fairly strong when put into the cellar. Then you will have fewer weak ones in the spring, for a very weak colony in spring

invites robbers. See that any that are weak in the spring have the entrance contracted, and after their first flight the entrance need only be large enough for one bee to pass at a time.

2. In most cases it is not easy to stop it after it is begun. The ounce of prevention is worth two pounds of cure, If the colony is very weak, or queenless (and quite often queenlessness is at the bottom of the trouble), it may not be best to try to stop the robbing. For in trying to stop the robbers, especially if you do any such thing as to remove the victimized colony, you may only start robbing in others. Just let them go on and finish up the job, and if not disturbed, they will be satisfied to stop when there is nothing more to be had, without pitching into every neighboring colony. If you don't want the robbers to get all the honey that is in the hive, take out what you like, but always leave in the hive a little for the robbers, so they will stick to that hive. But whatever you do, don't take away the hive from its place, unless you set in its place another hive for the robbers to work on. If the colony is not too weak, sometimes robbing can be stopped by piling straw or hay a foot deep about the entrance, and wetting it thoroughly. The robbers don't like to go through it, but the bees of the colony will find their way through.

3. No; the bees would tear it down.

Stimulative Feeding in Early Spring.

1. What is thought of the feeding of bees in early spring for production of brood?

2. Is Graham flour as good as oatmeal?

3. Can too much be given?

Cooksville, Ills. E. B. Ellis.

1. Opinions are divided as to stimulative feeding. Some believe that there is much advantage in feeding each evening, or every other evening, about half a pound of diluted honey or syrup, while some of our most experienced bee-keepers prefer to do no feeding in spring, only so far as it may be necessary to give the bees not only a sufficient amount of stores, but an abundance of it. Having given them a full supply, they are left undisturbed.

2. We do not remember to have seen a report of any careful comparison between Graham and oatmeal. Give a dish of each at the same time, and see which they seem to like best. Perhaps you will not find any difference.

3. It is not very likely that you will feed too much meal, for in places where natural pollen is plenty, they will desert it, and if there is no natural pollen, they may need some substitute.

Does the Formic Acid Cause the Pain?

Please tell us if it is the "formic acid," when administered through the agency of the sting of the bee that gives the pain which follows after being stung. Some will doubtless say "Yes." Is it formic acid which gives some people pain in the stomach after eating honey? Will formic acid give pain if introduced into the blood by other agencies, if formic acid is mixed with the honey, as Prof. Clarke says it must be in infinitesimal quantities? If you cut a finger, or cause an abrasion of the skin so as to draw blood, you may put all the honey on the wound you can, yet you will not feel any pain similar to that ensuing after bee-stings. Try it.

Subscriber.

Answer.—There's a big difference between "infinitesimal quantities" and full strength. Dissolve a teaspoonful of salt in a barrel of water, and you may apply the solution to a cut on the finger without pain, but the application of pure salt would be quite different. "Try it."

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

May 2.—Connecticut, at Hartford, Conn.
Mrs. W. E. Riley, Sec., Waterbury, Conn.

May 4.—Susquehanna Co., at Montrose, Pa.
H. M. Secley, Sec., Harford, Pa.

May 4.—Allegany Co., at Belmont, N. Y.
H. C. Farnum, Pres., Transit Bridge, N. Y

May 18, 19.—South Texas, at Wharton, Tex.
T. H. Mullin, Sec., Eagle Lake, Tex.

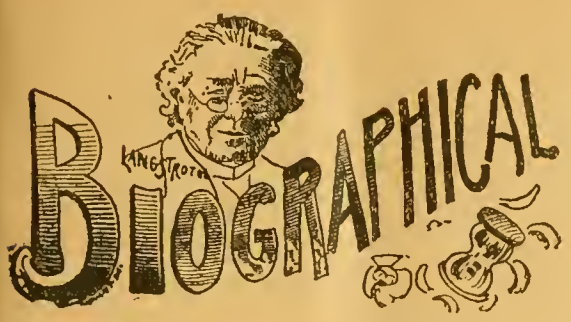
☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—The Editor.**

North American Bee-Keepers' Association

President—Dr. C. C. Miller....Marengo, Ills.
Vice Pres.—J. E. Crane.....Middlebury, Vt.
Secretary—Frank Benton, Washington, D. C.
Treasurer—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

President—Hon. R. L. Taylor..Lapeer, Mich.
Gen'l Manager—T. G. Newman, Chicago, Ill.



JOSEPH E. POND, ESQ.

Again we present to our reader one of our honorable corps of representative bee-keepers, who have for years aided

JOSEPH E. POND.

in making the department of "Queries and Replies" so interesting and profitable to our readers. Mr. Pond has from the very first—in 1885—contributed regularly his opinions upon the various questions propounded. He has also, at different times, and doubtless as "the spirit moved him," written valuable articles for the BEE JOURNAL, upon the numerous and important subjects that have, from time to time, been discussed in these columns.

Mr. Pond was born in South Walpole, Mass., on May 21, 1834. He was educated in the schools of his native State, and at the "Indiana Asbury University," in Greencastle, Ind.

He studied medicine at the Howard Medical School; was in the United States service during the "late unpleasantness," in the medical department, but resigned in 1863, and began the study of law, which profession he has been actively engaged in since 1869.

Mr. Pond began the keeping of bees in 1866, being induced thereto by accidentally running across a copy of Langstroth's matchless work, "The Hive and Honey-Bee." He has kept bees only as a recreation, but has studied to a considerable extent, in order that he might know what he was doing, and to learn the reasons therefor.

Keeping bees, with him, has been a labor of love. He has carefully studied their habits, and tested, experimentally, nearly all points that in theory seemed practicable and valuable.

Mr. Pond was the first to call attention to the matter of close spacing of frames, and he still believes the method of so working will produce the best results.

He has never kept bees for profit, and only from 5 to 20 colonies at a time; hence, in some apiarian things, he has had more time to learn the "whys" and "wherefores" than one who has been constantly endeavoring to make a financial success of bee-keeping.

The Queen, some one has said, is not a ruler in any sense of the word. She is a mother—the egg layer—and is governed and controlled at every step by the bees. She is under the direction of the worker bees. She does not lead the swarm, but is generally the last to leave the hive, and quite often has to be sought out and driven from the hive by the bees.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Having Divided Colonies as Good as Natural Swarms.

This question was asked in Query 849. As none of those replying had space to tell the "hows" and "wherefores" pertaining to the question, each one gave a brief answer that was applicable to his own locality; so all the answers we may say, are correct.

The reason that a divided colony is just as good as any in the South, is this: Our main honey harvest never comes earlier than May, and in some portions of the South it does not come until July; so we may divide our bees in March or April, and long before the honey harvest comes, we can have the divisions or divided colonies just as strong as any natural swarm, or as strong as one that did not swarm at all. So they are bound to be just as good for storing honey, or for any other purpose, as the natural swarms, and for me I will take them first, as the portion that forms one of the divided colonoies has a young, vigorous queen (or ought to have, if the apiarist knows his business) that will have her colony boiling over in bees at the right time; when, if they had swarmed naturally, the swarm is most likely to have an old queen that will persist in swarming again just at the time they should begin to work in the boxes, thus almost rendering them useless for storing comb honey that season.

Or if they do not swarm, the queen in many instances is beginning to give way, and as natural *first* swarms usually build nearly one-third drone-comb, the consequence is at the time they should begin in the supers their population is about one-third drones, which is a great loss to the owner. Nearly twice as many bees could have been reared on the same food, and the hive chock-full of bees instead of drones. Or the queens of natural swarms may be so nearly "played out" at the time of swarming that her colony may be so reduced at the beginning of the honey-flow that they will be useless for storing section honey. While some natural swarms, I must admit, are as good for section honey in the South as others, I speak of the majority.

The parent colony, where a natural swarm has been cast, is better for section honey in the South than the swarm, for the above reasons.

Now, to make it a little plainer, I will say that if you make your divisions at the right time, you will have all natural colonies long before the honey-flow; just for the simple reason that time enough makes them so.

For instance, we divide in April; by June the artificial part will have passed away by an entirely new generation of of bees, and they have all the natural qualities of a natural swarm, and are in fact, or reality, a natural colony. So why are they not just as good for any purpose as to let them swarm? I say they are, and better.

Early natural swarms in the South are of no value except to perpetuate the colony until harvest time, and many times fall behind the rightly made artificial swarms and the after-swarms just for the reasons given above. While in the North their bees seldom swarm until the beginning of the harvest, so the Northern apiarist can put his rousing natural swarm right to work in the boxes, and, of course, get the use of them at once. And, of course, divided colonies have not had time to recuperate, and are not profitable; nor can they work like the natural swarm. That is why the answers to the above question were different, and at the same time all correct.

I have taken 4 frames of bees, brood and honey from as many strong colonies in the last of March; put them together, carried them to an out-apiary, given them a good queen, and have had such a colony outstrip anything in the apiary that same year; and the full colonies, where the frames were taken from, never perceptibly felt the loss.

More than this, I used to run my bees for box honey, and have received orders for full colonies right at the beginning of the honey-flow; and on going out to the apiary to select a *good* colony to send to my customer, I have found all such beginning to work freely in the sections, I just turned about and procured a new empty hive, and on going to 8 strong colonies, took a frame of bees, brood and honey, placed them in my new hive, closed the entrance (this

all being done just about sundown), put it in a cool place three days, then gave it a good young queen from a nucleus hive, and let them work about two days, or until I knew the queen was all right and laying, then shipped it. And I have had the report from such a colony gathering over 100 pounds of surplus that season.

I gave the full colonies, where the eight frames were taken, empty frames with foundation starters, and the effect was so much of "the drop in the bucket" character, that it was not perceptible after the frames were taken out; but, on the contrary, when I went to take off the crate of sections, I have often found a frame of nice comb honey where I had placed the empty frame.

There is no fiction or theory about all this, it is only bee-keeping in the South, and any one that will try and work rightly, can do the same. J. A.

Bee-Keeping in Florida, Etc.

On the south side of Orange Lake, Fla., Mr. Chas. F. Henning has somewhere in the neighborhood of 900 colonies of bees, spring count. He has been engaged largely in queen-rearing until this season. In a recent letter he states that he has taken off 2,000 sections of honey, and has 5,000 more on the hives. This season he will devote his time principally to advancing the interests of bee-keepers all over the State.

Continuous rains on South Side Lake Harris have prevented the bees from giving as much surplus comb honey. We are hoping for some surplus from the later flowers, but comb honey from the orange was short. Those who run their apiaries for extracted honey had the advantage this year. Last year the season was all that could have been desired.

A LAW AGAINST ADULTERATION.

I fully agree with the editor of the BEE JOURNAL on the way to deal with honey adulterators. We need a law against selling glucose for honey, as well as against selling oleomargarine for butter. And *more*, we want a law forbidding the manufacture and sale of artificial honey under any and all circumstances.

Let us take this matter in hand, as suggested by Mr. Newman (page 697 of the BEE JOURNAL for Nov. 24, 1892), and raise whatever amount will be needed to carry on the fight to the end. Let each one who is interested, send in his dollar, or more, according to his ability, to be retained until sufficient funds have been raised to put the matter through. Let the producers of pure honey petition for a stringent law against selling anything but pure honey, under any name that will injure our legitimate business, or throw discredit on any honest producer.

Some may say, "A law will not prevent adulteration." There may be violators of this law, as well as the laws against stealing, fighting, etc. There are some who would sell artificial honey if there were no law forbidding it, who would not do so in violation of law. With a heavy penalty attached to the law, many others would be deterred, and this difficulty would be practically removed, and our chances of success in this our chosen pursuit be increased.

MRS. MINNIE WOOD GORDON.

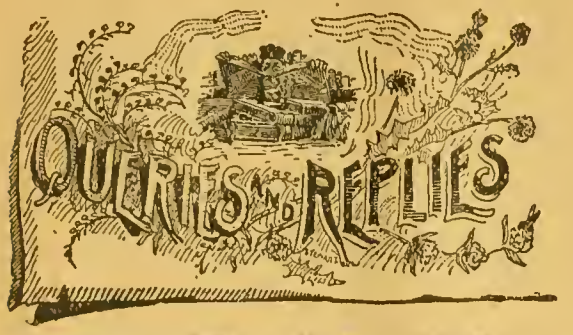
Bloomfield, Fla., March 30, 1893.

Father Langstroth, in his entertaining "Reminiscences," which are being published as a serial in *Gleanings*, gave some "interesting incidents of Samuel Wagner, founder of the AMERICAN BEE JOURNAL," in the number for April 1st. After giving a letter received from Mr. Wagner in 1852, Mr. Langstroth follows with these two paragraphs, showing the excellent character and qualities of the lamented founder of this journal:

As soon as Mr. Wagner became acquainted with my hive, instead of publishing his translation of Dzierzon, for which he was then in negotiation, he urged me to write a book which he believed would, with my movable frame, do more for the promotion of American bee-culture than anything from abroad. Being an excellent German scholar, and very familiar with both ancient and modern apiculture, more especially with all that could be learned from German sources, he placed all his varied information at my command absolutely, without money and without price, and labored with untiring zeal to make my book and hive a success. Seldom do we find such an admirable example of rare magnanimity and disinterestedness.

Visiting him at intervals, and corresponding with him frequently, he kept me posted up in everything occurring in Germany which was of interest in our favorite pursuit. His large library, so full especially in the German literature of bee-keeping, was thoroughly at his command, and he could turn at once to book or periodical for information on any point that might come up for discussion.

"Bees and Honey"—page 517.



Bees Building a Queen-Cell Over a Drone-Egg.

Query 868.—1. When bees build a queen-cell over a drone-egg, and feed it on royal food, are they aware of the fact that it will not produce a queen? 2. If not, why does the capping differ from the real queen-cell?—Pa.

I don't know.—A. J. Cook.

I don't know.—Eugene Secor.

I give it up.—James A. Green.

Not being a "mind reader," I cannot tell.—Jas. A. Stone.

1. I do not know. 2. Give it up.—Emerson T. Abbott.

I never asked them. Perhaps some one else has.—Mrs. L. Harrison.

If they think at all on the point, they probably have very serious doubts, and are catching at straws.—R. L. Taylor.

1. I suspect so, from the fact that they'll not use such an egg if they have others. 2. I don't know. Does it?—C. C. Miller.

1. I think not, or they would not "fool their time away" building such cells. 2. Like Dr. Miller, "I don't know."—C. H. Dibbern.

The bees probably have a way of knowing a mature drone from a queen larva, but I do not think they can tell one egg from another.—G. L. Tinker.

I think they start in good faith, but as the larva matures, they find that it is a drone, and then they cap it without taking much pains with it.—E. France.

1. Who can tell? Probably not, else they would save their labor. 2. Can any one tell why our bees do many seemingly incomprehensible things?—J. E. Pond.

Bees are queer "critters," and do many (to us) strange things—like a person drinking alcohol when they know it will produce death and damnation.—H. D. Cutting.

How much bees reason and know I am not going to tell you; for, candidly, I do not know; but one thing I do know, and that is that bees never "build a queen-cell over a drone-egg." A queen-cell is *never* built over anything but a larva.—G. M. Doolittle.

1. It is not easy to tell what bees think. 2. I have never seen a queen-cell built over a drone-egg, and I was not aware that the capping was different.—M. Mahin.

I cannot fathom the thoughts (?) of the bees on this subject. Bees sometimes apprise you of their intentions before stinging. You can be certain afterward.—P. H. Elwood.

1. It has seemed to me that they do not real heartily believe that it will produce a queen, but I am unable to say at just what stage doubt give way to certainty.—S. I. Freeborn.

1. I, for one, am not able to read the thoughts of bees, though I might sometimes imagine I did. 2. I imagine they may have some intuitive knowledge on the subject.—J. H. Larrabee.

This is one of the unaccountable facts—or rather, "freaks"—of queen-rearing. I am free to confess it is beyond my ken, but is probably brought about by some abnormal condition.—Will M. Barnum.

1. I don't know if they are "aware," but they seem to regard it as the *last hope*. 2. The excess of royal food kills the grub, and consequently no cocoon is spun to preserve the shape of the cell.—J. P. H. Brown.

1. This is all conjecture, yet there is evidence that they do know the difference, and build cells over drone-larvæ simply because they have nothing better. 2. The very fact that they do make a difference in the cells is evidence that they *know* there is a difference—Mrs. J. N. Heater.

I don't think they know anything about it while it is an egg, but find out it is a drone before capping time. If bees can change the sex of an egg, why don't they make queens out of such? Or why don't they make workers out of laying-workers' eggs? Bosh!—Mrs. Jennie Atchley.

1. I guess not. A hen will set on a nest without any eggs in it. Bees and hens, and "sich," do not "reason." The impression prevails among bee-men that normal queens are *never* hatched from plain, smooth cells. This is a very great delusion. I have often seen perfect queens hatched from smooth cells. All queen-cells are smooth until they are sealed. The indentations—miniature cells—are worked on the cell after the sealing, and cannot effect the inmate of the cell. Perhaps the embellishment is the work of the guards to employ their time. 2. The "capping" does not differ. It is the inmate that differs.—G. W. Demaree.

Report of the Indiana State Bee-Keepers' Convention.

Written for the American Bee Journal

BY WALTER S. POUDER.

(Continued from page 496.)

Pres. Russell—The next in the order of our programme is an essay by Mrs. Alice S. Moore, of Greensburg, Ind., on

What are the Honey-Plants of the State of Indiana?

"How doth the little busy bee
Improve each shining hour?
It gets a hustle on itself,
And robs the early flower."

Honey is not made by the bees, but nature has provided the delicious nectar in myriads of beautiful flowers that deck forest, field and garden in quantities far exceeding the wants of bees, and they store it away and man utilizes it for his pleasure and profit.

Honey and pollen are supplied by nearly all the flowering trees, shrubs, vines and plants of the vegetable kingdom, and our own State is well furnished with fine nectar-yielders, and the bees are always the first to detect the earliest flowers. In writing of some of Indiana's honey-plants, I will include a few that are so universally cultivated that they might almost be classed as natives.

First come the alders, soft maples and willows. These are very early, and furnish the bees an acceptable change from the spare winter diet. Then the hard or sugar maple throws out its golden tassels, and "the little brown pets" have another supply of nectar and pollen. The peach, pear, quince and plum, rich in honey and pollen, later extend an invitation which is never slighted by provident bees, and then the apple-blossoms afford a real harvest.

For bee-pasturage the cherry has never been fully appreciated. Several of the early varieties bloom in a time when most needed by bees, and the latest are fully improved by them. The raspberry continues in bloom over two weeks, and few flowers furnish so large a quantity of purest nectar; it is a crop of great value to bee-keepers. Strawberry and blackberry blooms also yield nectar.

Next come the clovers. The sweet clover blooms and yields honey continuously from June until August, with usually a second crop of bloom lasting until late fall, and the honey is unsurpassed in color and flavor. Melilot clover is said to be worth the cost of cultivation to the bee-keeper because its flow of nectar is not affected by atmospheric changes, and is second to none in flavor. Alsike clover is also a good honey-plant, and the bees have no trouble in finding it. Italian bees gather considerable honey from the red clover. The well-known white clover fills the air with its ambrosial perfume, and the bees in myriads sing from flower to flower, and never succeed in gathering all its honey.

Honey from buckwheat is rich but dark. Mustard is most profitable as a honey-plant; it keeps branching and blooming all summer. Catnip will repay cultivation for honey alone. It continues to blossom for a long time, the bees working on it with the greatest assiduity from "early morn till dewy eve." Hoarhound, peppermint, spearmint, wild balsam, teasels, thistles, burdocks, wild snap-dragon, columbine, plantain, wild geranium, may apple, wild sedums, violets, wild oxalis, the bell-flowers, field larkspurs, blood-root, all the milk-weeds, tongue-grass, knowweed daisies, wild lettuce, iron-weed, blue-curls, cardinal flower, wild lobelia, wild hydrangea, starwort, wild parsnip, wild rose, trumpet creeper, wild agertum, rap-weed, sumac, leather-flower, etc., are all natives of Indiana, and are all honey-plants.

Motherwort cannot be too highly commended as a honey-plant. It blooms from July until frost, and grows in great abundance. The figwort, also extensively advertised as "Simpson's honey-plant," is a native of Indiana. It is a large, coarse-growing plant with innumerable small flowers, with an opening at the base of the seed-ball which is hollow and filled with the purest honey, and so rapidly is it deposited that in two minutes after being taken out by a bee, it is again filled with a shining drop of nectar. So freely does it yield honey, that a branch removed and given a sharp shake, the honey will fall in drops. It blooms from July until frost.

Ground ivy, a creeping vine that covers the ground in many parts of the

State, is a fine honey-plant. The wild asters are all excellent honey plants, bees sometimes collecting from them as late as October.

Spanish-needles yield large quantities of rich, yellow honey. Smart-weeds yield strong nectar, in abundance, of a peculiar odor. Golden-rod, by many, is given the proud distinction of being the banner nectar-bearer of fall flowers, giving bountiful measure from its golden bloom. The list is almost endless, and nearly all of the common garden vegetables and vines secrete honey in their blossoms. One extravagant writer speaks of a variety of corn which might yield "a gallon of honey from the tassel, a cake of beeswax under each leaf, and a jug of whisky from each ear`!"

Among the trees, the locusts are almost certain to bloom, and they yield a bountiful supply of rich nectar, and bees literally swarm among the highly perfumed blossoms. Locust honey can hardly be said to be dark ; it is of a rich, pale red-gold, and its keeping qualities are excellent. The basswood, or linden trees, when in bloom are like great music-boxes, giving forth the hum of thousands of bees as they swarm in and out to drain the nectar from over-flowing cups. There is no tree that yields so abundantly of nectar as the linden, nor is there any superior in flavor.

The tulip or poplar tree yields an abundance of delicious honey, nearly a teaspoonful of pure nectar often being found in one of its large, bell-shaped flowers. Box-elder, blooming between the linden and poplar, is a great favorite with bees, and yields a superior honey. Several varieties of willows are good honey-producers, and grow in nearly all localities.

Even small grounds could be utilized for the benefit of bee-keepers. If there is a pond or low place, it could be transformed into a beauty spot with pussy and button willows, golden-rods, wild bergamot, wild asters, and mints.

I have read of a honey-plant mound, six or eight feet high, and sloping gradually to a level. It was marked off in rings ; in the center was planted figwort, next golden-rod, then spider plant ; next motherwort and asters, then catnip and smartweeds, surrounded with peppermints and finished with ground ivy. The combination of purple, yellow, pink and white flowers makes it attractive to both man and bees.

Early in spring, a round bed bordered with dandelion and the center filled with violets—white and blue—makes a beautiful show of color. They are good honey-plants, and coming early, they are a luxury for the winged pets.

If on Arbor days bee-keepers would see that maples, lindens and poplars were planted, we should not only have shade, but beauty and profit. Waste places along the roadside and railroads could be covered with figwort, motherwort and sweet clover, so that when the

"Swift-winged forager, the bee, sets forth
Scouting from east to west, from south to north,
Shall find and gather with industrious haste
Sweetness, that else upon the earth would waste."

"'Tis for them, the blooming world
Nectareous gold distils."

ALICE S. MOORE.

Pres. Russell—We have just listened to this very able and enjoyable essay by Mrs. Moore, and I think she deserves a vote of thanks from this Association for it. She is one who has always taken a very great interest in this branch of science, and has, at different times, given us almost a volume of knowledge. I think as a slight mark of our gratitude, we should send to her, as she is absent, a vote of thanks.

Mr. Muth—I am in favor of what our President has said. It *is* an excellent essay, indeed. I therefore make a motion that we send a vote of thanks to her.

The motion was carried, and the following adopted :

Resolved, That the Indiana Bee-Keepers' Association hereby tender a sincere vote of thanks to Mrs. Alice S. Moore, of Greensburg, Ind., for her entertaining and valuable essay.

Mrs. Moore's essay was then discussed as follows :

Pres. Russell—The basswood that Mrs. Moore has spoken of I have been working with for several years. I take sprouts of these trees up by the roots, which is very easy to do at this period of their growth, and set them out all around my farm, just where I want my fence—just a straight row of basswoods, about 20 feet apart. In about two years, during which time they did not give me any trouble, I put up the wire fence, using these trees as posts. I think this is a very good plan, and then, besides, it is a grand thing for the bees, as it has on it a very pretty flower.

Mr. Pope—I think that is a good idea, and I think the people of this State should set out that kind of tree more than they do. If they wanted to get a shade tree, what is prettier than the basswood ?

Pres. Russell—The maples are a most beautiful shade-tree, but the basswoods are just as pretty, and have the loveliest flower that ever was seen. It is a very hardy tree, too. As for the worms, three table-spoonfuls of chloro naphtholine dissolved in a bucket of water will kill all of them.

Mr. Hicks—I sowed buckwheat, which made a very fine growth and luxuriant bloom, but I got no honey and no seed. I had to feed my bees in consequence for lack of winter stores. Can any one tell me why it is that when we do all the labor and make preparations, we then get no honey?

Mr. Catterson—Some six or seven years ago, a neighbor of mine had a field of buckwheat of some six or eight acres. He said when the buckwheat was in bloom, about seven or eight o'clock in the morning, the bees would just come in flocks there until about 11 o'clock, and then they would go away again. Two years ago last summer, I had about six acres of silver-hull buckwheat, and I don't think the bees worked on this at all, and I don't know whether it provides honey as well as the old-fashioned buckwheat or not. In regard to its failure to make seed, I have been told that during the warm weather, it will not form. Then if that kind of weather should last until autumn and destroy the bloom, of course there would be no seed. The weather must be cool to produce seed and honey.

Pres. Russell—About 1½ miles west of here, a man raised the silver-hull buckwheat this year, and it did a good deal as Mr. Hicks has said. It seemed to blast at bloom, and to make no seed. I cannot tell why this is; but I have now 50 bushels of as pretty buckwheat as you ever saw—the Japanese.

Mr. Catterson—The siver-hull will remain in bloom about twice as long as the Japanese, which only stays in bloom about a week or ten days. It is very poor buckwheat that will not yield seed.

Pres. Russell—I believe in sowing all crops at the right time of the moon. I think that has much to do with success.

Mr. Muth—When is the right time of the moon, Mr. President?

Pres. Russell—Well, that I am not going to tell. (Laughter.)

Mr. Catterson—Mr. President, as it is getting late, and I don't know but what my name will be called next on the programme, I, for one, am in favor of adjourning until this evening.

The convention then adjourned until 7:30 p.m.

(Continued next week.)

Working Colonies by the Jumping Plan.

Written for the American Bee Journal

BY E. L. PRATT.

Some time ago I published my method of working bees by the jumping plan, and it has proven so successful in quite a number of large apiaries in different parts of the country, that I give it again, with what changes and additions that have been found advantageous in practical experience for two seasons. All who try this method are requested to make a report to the author, with any suggestions that can be given from experience with it.

The first thing to be done in spring is to give the hives a thorough renovating. Look each colony over, and see that it has a good queen and plenty of stores when equalizing operations commence.

For some reason the bees die off in some hives very much faster than in others, although the colonies were of equal strength in the fall, and the queens were equally prolific. Some queens do not do so well as others in early spring, and unless such colonies are given some aid from the apiarist, they will amount to nothing all the season, as they cannot build up in time for the harvest.

I have found the jumping plan equalizing the colonies as expeditious and effective as any I ever tried. I look my colonies through, mark the very strong ones, and exchange stands with the weaker ones; jumping the hives over and across back and forth, at intervals of about ten days, until I have them all of equal and proper strength to store comb honey in the sections, which means full of bees and brood, but very little honey.

All colonies that are found too weak to possibly build up in time, should be left out of this operation, and let alone to be built up and re-queened later on.

It is very important that all the queens be of a prolific sort, and the bees

good workers, if you hope to make anything at handling bees for a living.

A colony covering three or four combs fairly well will do to work on this plan, and when a colony of this size suddenly occupies the stand of one covering six or eight combs, there is an influx of population to the weaker colony that will give the queen in that hive courage, and she will at once start to fill with eggs all the comb available. One or two frames of the unsealed, and very young larvæ, should be taken from the strong colony and given to the strengthened one as soon as a sufficient number of bees have joined to properly care for it—which will be in the afternoon if the colonies were jumped in the morning.

Leave as large a portion of the sealed and hatching brood with the strong colony as possible; such a large number of bees are taken away by the change that they will not refill with young bees in time to cover the very young brood that is left. Here is where outside cases work in well on cool nights.

We will now suppose that all the colonies are in good working condition. It is about ten days before clover opens, and everything is in readiness for a good crop of honey. For illustration, we will suppose you have four good colonies of bees in prime condition, arranged in groups thus: One facing east, and three in line at its side facing south.

Ten days before your main honey flower opens, remove colonies 1 and 3, and place them in the same relative position by the side of No. 4, so as to compel the working force from the hives 1 and 3 to enter No. 2, which should be tiered up for extracted honey, or arranged with two or three tiers of boxes with foundation starters. To prevent such large colonies from hanging out or swarming, they should be arranged according to the Pratt automatic hiving plan, which has been explained and illustrated in these columns.

A bottom-board is placed on an even foundation, and a hive-body or shallow brood-chamber placed on it; into this hive-body place one or two combs and empty frames with starters of foundation; cover this with a swarm hiving-board, and place the colony and its supers on the top of all. The lower entrance may have a common excluder, and the upper one left open wide.

If a swarm issues, it is automatically hived in the lower body, and work will progress rapidly in the supers, and with such a tremendous force of bees the honey will "roll in in waves," as it were.

One will readily see that the ventilation with such an arrangement is perfect. The entrance is never crowded, and the bees going and coming do not in the least conflict with each other, By this arrangement extra strong colonies will hold together without the desire to swarm.

As soon as the bees begin to fly well again from colonies 1 and 3, or in about eight or ten days, they should be jumped back to their original position by the side of No. 2, and left in this position until after the harvest is over. Colony No. 4 will thus receive extra strength, and should have extra storing-room, and the south entrance arrangement the same as was given to No. 2. If all the hives had supers started they should be tiered over the colonies strengthened for completion.

Having such an extra large force during a good honey-flow, the same bees that would have worked very well in three different hives, will now show you what honey-gathering is. The amount of work and expense by this plan is reduced nearly one-half, and with such rapid storing by this extra large force, the honey is all first quality. During a moderate flow, honey will come in such quantities that one is surprised—every comb sealed full, and attached firmly to the section.

After the honey-flow is fairly over, take every ounce of honey away from all the colonies. Extract what can be gotten at in the frames, and leave the bees with as little on hand as possible, so they will not rear a large number of bees that will be consumers only. Then if you have a good fall flow, no feeding will be necessary. The same operation can be gone through again later in the season, with the view to leaving all the colonies in good condition for winter. Unless the fall flow is unusual, such as from buckwheat, do not catch up the force from hives 1 and 3, but jump them simply for equalization, so that each may then gather enough honey for winter stores. All colonies that have been used for nuclei, etc., can now be doubled in to advantage.

Do not try to winter any but strong colonies with plenty of stores. If your hives are properly arranged for expelling the moisture, there will be no trouble about such coming out well in the spring. If wintered on the summer stands, outside cases ought to be used, and the hives should stand about 14 inches from the ground. If possible, select a sheltered spot for wintering bees out-of-doors.

Beverly, Mass.

That Case of Bee-Diarrhea and Supposed Cause.

Written for the American Bee Journal

BY DR. C. C. MILLER.

Here is a letter from Austin Reynolds, of Cataract, Wis., in which he gives the sequel to the case reported on page 339:

"As you requested, I will now let you know how my bees came out. On March 7th, the mercury stood 43° in the shade, with no wind stirring, and the sun shining. I scattered oat-straw and chaff on about one-eighth of an acre, and got a man to help me bring the bees out. I took a clean bottom-board, exchanged it for the dirty one of the first hive, then scraped and washed this last for the next hive, and so on through the whole lot, 13 in number. It was a sight to see the bees empty themselves; but one better stand from under. I don't think there was a space of one foot square in three rods around but what had more or less spots on it, and but very few bees failed to return to the hives. They would alight on the straw and soon rise and fly back to the hives.

"At sundown, they having become quiet, I returned them to the cellar, and if they became restless afterwards I would open the outside cellar-door at night, and twice I wet cloths and laid at the entrance of the hives to give them a drink, which seemed to quiet them. On April 3rd I took them out of the cellar, and placed them on the summer stands, every colony being dry and healthy as ever, as far as I can see. They had not spotted their hives since their flight, and are now, April 10th, bringing in pollen in small quantities, and the trough where I water them is covered with bees.

"On page 439 of the AMERICAN BEE JOURNAL, R. H. Humphries says he thinks it was dampness that caused my bees to be diseased. I think he is wrong, as I have a very dry cellar, and I had a bushel of lime in it, and a two-inch pipe running from the cellar and connected with the stove-pipe above. I lay the trouble to the way the bees were handled when putting them into the cellar. The man who helped me was careless, and hit the hives against the cellar stairs, and the bees must have filled themselves without a chance to fly afterwards, hence the trouble.

AUSTIN REYNOLDS."

There are some points of interest connected with this case. The bees had a successful cleansing flight with the thermometer at 43°—a lower temperature than is generally considered desirable, but the bright, still day helped much.

I think Mrs. Atchley can see in this case a decided advantage in having loose-bottoms that could be easily cleaned.

In this case, at least, the bees stood confinement all right after their flight, which has not seemed to be always the case. Just why, I don't know, for theoretically one would think that a flight would help bees in the cellar as much as those on the summer stands.

While Mr. Humphries may be right in thinking that the fatal cases of which he speaks, on page 439, were caused by dampness, that hardly justifies the conclusion that a flight would do no good in such cases. I venture the assertion that if the bees of which Mr. Humphries speaks could have had a flight in time, they might have been saved. At any rate it seems to be one of the things upon which all experienced bee-keepers are agreed, that from whatever cause diarrhea may arise, a cleansing flight is always a cure. I do not remember that I ever heard any one but Mr. Humphries express a dissenting opinion.

It is possible that Mr. Reynolds is correct in his supposition, that jarring the bees on carrying them into the cellar was the cause of the trouble, but I have doubts about it. In several cases I have known colonies to have their hives knocked, not only once but many times, while in the cellar, and still come out all right, so that I do not fear that kind of disturbance as much as formerly.

Marengo, Ill., April 10, 1893.

Bee-Keeping in Oklahoma Territory, Etc.

Written for the American Bee Journal

BY JAMES A. MARSH.

Spring is coming—is right here, and with it the bee-fever. About a year ago I left my home, family and bees in Missouri to seek a home in this country, now a part of Oklahoma Territory.

Well, I am here. My home is here. My family are here, and I also have one, and the only, colony of bees in this part of the Territory.

I will not waste this opportunity for proving a few disputed points concerning bees which could not be proved where bees are plentiful, or at least

satisfy my own doubts. Horsemint is coming up, and there are many other weeds and shrubs, including the mesquite, which I believe is a dwarf honey-locust. Almost all the flora is new to me, and I have no work on botany adapted to this region, therefore I will have to wait to see what the bees think about these flowers before I can tell much about whether this is a good, poor or indifferent bee-country.

My bees arrived too late in the season last year, so I am all impatience to see what they will get from certain flowers which had an abundance of honey last year, when there were no bees to gather it. I do not enjoy sensational stories, yet I believe I have found something good growing on these broad prairies.

BEES REMOVING EGGS FROM CELLS.

On one occasion my experience was different from that given on page 270, concerning bees removing eggs from one cell to another. A colony lost their queen early in the season; I examined their combs closely, and saw no brood or eggs. I then cut from a comb of another hive containing eggs, a small square, made a hole in a comb of the queenless hive into which I placed the piece containing eggs. In three or four days I examined the comb, in the hope of finding queen-cells started, but, to my surprise, I found no cells, and the eggs were gone from the square of comb. I replaced it with a fresh section containing eggs, and again examined them in three or four days, finding the eggs missing from the inserted piece of comb again; but on close examination of the other combs, I found larvæ apparently three or four days old, and eggs not yet hatched. I took care to see that there was no queen in the hive.

A queen was reared and fertilized, and lived until I pulled her head off a year later.

PACKING AS AN ABSORBENT.

There is a good article "continued" on page 275, by James A. Green. But why use packing as an absorbent, when we want above all things to get rid of the moisture? Why not use it simply as packing, with a non-absorbent intervening between it and the bees?

I cannot agree with Dr. Brown, on page 277, and could not afford to be sunning moisture away, which my absorbents had collected, when it might just as well have been allowed to collect upon the sides where it would run down to the bottom-board and out of the hive without damage to the bees, and without attention from the apiarist.

I mean no offence, but want the apparent inconsistency of these absorbent ideas aired in the BEE JOURNAL, and I hope Prof. Cook may give his opinion on this "absorbent" topic.

Seay, Okla., March 8, 1893.

The Packing-Case Method of Wintering Bees.

Written for the American Bee Journal

BY IRA W. RUSSELL.

My attention has been drawn toward Mr. Green's method of packing bees for out-door wintering. I have wintered bees on that plan for the last three winters, with this difference in the method of construction of hives and outside case: My cases contain four hives, as does Mr. Green's, with the difference that the hives are not removable, but are built stationary in the center of the case, with about six inches of space left all around, between the sides and the bottom, for packing material.

The top of the case is made in two doors hung with hinges to the sides of the case, and when closed they make a roof (gable fashion) to the case. These doors should be high enough to admit at least two supers, on top of hives, and covered with tin. All that is required to prepare them for winter is to raise the doors or covers, and fill the space over the hives with hay or straw.

I think that when bees are thus prepared, they will stand the coldest weather we have in this latitude, which is about 30° below zero.

A great many would object to the bulk and weight of such a contrivance, on account of moving and handling. Well, I have not tried to move mine since I placed them in their present position, which was two years ago last fall.

Right here let me say that I have been experimenting a little with the colony in one of these hives. Last spring I wanted to feed a colony that was weak. One of the colonies next to it was very strong. As I uncovered them, the bees of both colonies ran together over the tops of the frames, from one hive to the other, there being only an inch board between the two colonies; of course, all they had to do was to crawl over the top edge of the board to go from one colony to the other.

As they did not fight, I conceived the idea of feeding both colonies from one

pan of sugar syrup, placed on top of the frames. I found they worked harmoniously together.

When putting on the supers, I arranged them as one super, fixing them so that both colonies could work together, thinking that by so doing the strong colony might help build up the weaker one. This, I believe, they did, although I could not spare time to watch them closely. The result was that the weaker colony built up very fast, and the supers over both hives were filled at or about the same time. Neither colony cast a swarm.

Now, I should like to ask if any of the old bee-keepers have experimented along this line. I should like to hear if any one has tried working two or more colonies together, thus making the strong colonies help build up the weak ones, and what effect it had, if any, on swarming.

I put away 39 colonies last fall. The winter has been very severe. Bees have not had a flight in about four months.

Storm Lake, Iowa, March 4, 1893.

Some Questions About the Reversing of Frames.

Written for the American Bee Journal

BY F. L. THOMPSON.

I wish to ask for information on some points about reversing, which are not clear to me, though I have six bee-books and have had the BEE JOURNAL for the last year. My case is this :

I have reversible hives which are horizontally divisible into three brood apartments, each apartment having a capacity of 3⅛ Langstroth frames, consequently the whole has a capacity of 10 Langstroth frames. Now, I have carefully considered the subject of contraction, with reference to this locality, and it does not seem to me suitable to it. There are 600 or 700 acres of alfalfa near by, which cannot be cut all at once, consequently there may be, and probably will be, a honey-flow sufficient at all times before Aug. 1st to enable the bees to store honey besides what they need themselves. After Aug. 1st, and until Sept. 1st. or after, there will be a honey-flow from cleome; and After Sept. 1st it is still desirable to have plenty of bees, in order to have them in good shape for wintering. Now, if I do not practice contraction, and still keep the honey above those 10 frames, so as to give plenty of room to the queen, it would seem as if reversing was the only thing left.

Although Mr. Heddon has said in the BEE JOURNAL, "I have found no ill effects whatever from a large experience in reversing," Mr. Dadant quotes, in his book, page 414, "As far as bee-reproduction is concerned, the reversing apiarist reaches the same result as the brimstoning apiarist;" and below he says :

"In the present state of progress in bee-culture, reversing is less damaging, but its disadvantages cannot overbalance its advantages, unless it is practiced very cautiously and sparingly." It seems strange that in all the time reversing has been before the public, the amateur can find such conflicting opinions in two good authorities.

But the points I wish to ask about especially, are, How does Mr. Heddon reverse? Does he leave a reversed brood apartment alone an indefinite period, trusting that egg-laying and brood-rearing will go on in reversed combs with the same ease and safety as in the normal position? or does he reverse just long enough for the bees to get the honey out, and carry it upstairs, then restore the apartment to its original position? If the former is true, why should not a reversed brood-comb stay reversed all the time? How can honey stay in it, if reversing is what makes it run out?

Mr. Shuck speaks of "practicing inversion weekly, when the whole gather is likely to be in the supers." This would suit my case, if I knew what he meant—single or double inversion. But "weekly" inversion would be very damaging, indeed, according to what Mr. Dadant implies.

I will be very much obliged for a solution of these questions, as well as an opinion as to whether I am right or not in not practicing contraction under the circumstances.

Denver, Colo.

[Will some one who has the experience, please reply to the foregoing questions?—ED.]

The Winter in Iowa, Honey Prophecies, Etc.

Written for the American Bee Journal

BY THOS. JOHNSON.

The past winter has been one of the steadiest and coldest we have had for several years. Bees have perished in

chaff hives, and what I can gather from bee-keepers in the surrounding country, there will be a far greater loss of bees than there was in 1891, by one-half. There has not been a day that bees could fly since the forepart of November, and I have already an applicant for bees by the pound to fill total losses from the severe winter, their bees having frozen.

I left a few colonies of bees out just to see how they would winter, and, to use the language of Dr. Miller, "I see'd." All perished, even in chaff hives, and, from all reports, bees that are wintered out-doors on the summer stands will be a total loss in this part. Those in repositories are wintering well so far. This being March 6th, most of the snow that fell during the winter is still on the ground, but as luck would have it, the ground is very little frozen, and as soon as the snow goes off it will have a tendency to vegetation.

THE HONEY PROPHET AND PROPHECIES.

After carefully reading Mr. Wilson's explanation of his prophesy last year, I notice he refers me back to his former article. He wrote that if he were convenient to Jackson county, Iowa, he would move his bees there. If my informer is correct, the honey-flow from linden and white clover was as light, if not lighter, than in adjoining counties, and far behind this locality. He refers to the report of *Gleanings* for 1892, and that they say the average has been better this year than for the last five years. I cannot see whereon *Gleanings* bases that opinion. If so, where is the honey? Not on the market, nor has it been, nor is it in the hands of the producer. California has not the honey she has had for the last five years, nor any other State, even Ohio, the home of *Gleanings*.

Mr. Wilson tries to make the readers of the BEE JOURNAL believe that it rained more in the eastern than in the western part of Iowa. It did not, and when it ceased in the western, it also ceased in the eastern part, excepting showers now and then, and the loss of bees was fully as large in this part as it was in eastern Iowa.

Mr. Wilson says I am no better bee-keeper than the average. I don't claim to be, nor I don't claim to tell what kind of a corn-crop the people of Iowa are going to raise, nor the cotton or gruber crop Tennessee will raise, before the seed is planted. It is true that I reported my bees in good condition, and tried to give the true cause of loss in these parts, by bee-keepers not having their bees properly ventilated. I found that where the apiary was located with surroundings to protect the hives from wind circulating around them, there was the greatest loss, and before the general rains ceased, nearly every colony I had was pretty weak, as well as those of my neighbors.

Mr. Wilson said that the honey-flow would be more general than last year, and still holds to that belief, and says, "Who says it is not so?" I do, and I believe every person in the land interested in honey knows that in the year 1892 the honey product of the United States was the shortest it had been for the past five years, and if Mr. Wilson had watched the different reports that were published in the papers, from the Atlantic to the Pacific, he would not have made that statement.

He also says that most of my honey was produced from fall flowers, and not from linden and white clover, as was his prediction. Three-fourths or more of my honey was from white clover and linden, and if we had had the fall flow last year that we had in 1891, the crop would have been immense. I wonder if Mr. Wilson has any recollection of writing to me, on June 29, 1892, that he was interested in my travels through those parts of our State, etc., and said he would give me a better chance to prove him a false prophet; and also said that southwest of my county (meaning Carroll, but I live in Guthrie county), southeastern part of Crawford, and a very small portion northeast of Shelby and northwest of Audubon had a better flow of nectar than any other part around or adjoining it.

Now if his above prediction is based on linden and white clover, he has predicted for a country where that article is very scarce, and where the country is new. Linden does not grow on the prairies in Iowa, but along the streams of water where in these parts the crop was short in that direction. As for the fall flow, they were visited by growing showers and heavy rains in August, which caused the fall flowers to produce nectar, and they had a better fall flow than we had in this location. Now, I will leave that prediction to the readers of the BEE JOURNAL, through which he requested me to answer his predictions. I will say that he has jumped to conclusions without any basis; first, by stating how much honey I got, and from what source; and second, by quoting from *Gleanings* as proof that the honey-flow was better than it had been for five years instead of taking the reports of

writers in different States during and since the honey-flow.

Mr. Wilson has been cautioned in regard to his predicting that he might jump into a country where there was no linden or white clover, and he did that very thing when he "jumped on" the corners of Shelby, Crawford, Audubon and Carroll counties, because white clover has just started, and there is no linden in that part, as it is near the summit of the dividing ridge of the Missouri and Mississippi rivers.

REMOVING EGGS TO OTHER CELLS.

On page 270, the assertion is made that an egg that is taken from any cell by a bee is destroyed, and is never again deposited by the bees. Now my observation may meet with opposition, but nevertheless I am settled on this point, and will say for the benefit of Mrs. Atchley, that it is a great deal harder for the queen to lay in one's hand than to deposit the eggs in different cells than it is for a bee to remove the egg from one cell to another.

Being a queen-breeder myself, I have frequently had bees go from one hive to another, and steal eggs to rear queens from, knowing full well that was the only source they could procure them, and I have seen them in the cell after they were deposited, before they were hatched. Only last year I had a colony of bees to hatch, and after sealing all of their brood, I removed all queen-cells, and gave them two combs of fresh eggs, and while they were rearing more queens, the bees removed the eggs, and reared ten queens on different combs by the side of the combs I gave them. Now is it possible that our Northern bees know more tricks, and are more intelligent than the bees in Dixie? If Mrs. Atchley will try different experiments in rearing queens instead of sticking to the one theory, she will discover in the near future a great many things to be wondered at, and will find out that bees have different ideas.

Guthrie Co., Iowa.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Colonies Fine and Strong.

I took my bees out of the cellar yesterday, and they came out fine and strong. Only 2 colonies died out of 27.

S. A. PAIGE.

Masonville, Iowa, April 4, 1893.

Pretty Heavy Losses of Bees.

I put my bees out yesterday, and have lost 40 out of 64 colonies. I saw one man last Monday who had lost all he had—over 40; another that had lost 17 out of 18; another, 50 out of 112, and so on.

A. H. ROGERS.

Osseo, Wis., April 5, 1893.

Wintered About as Well as Usual.

It has been a fearfully cold winter, and all expected it would be trying to the bees, but colonies with sufficient stores and wintered out-of-doors in protected hives have come thus far through about as well as usual.

L. F. ABBOTT.

Lewiston, Maine, April 1, 1893.

Bees Appear to be Doing Well.

My bees are three-banded. I put them into the cellar on Nov. 24th, and they have had no flight up to date, but appear to be doing well. I have not a very large apiary, but it is the largest in the township. I am the first and oldest bee-man in the township. The weather now looks favorable for the bees to have a flight. I think I shall have them out soon.

R. HOWELL.

Gillett, Wis., April 3, 1893.

Bees Wintered All Right.

I took out my bees to-day, and they came out all right except one colony. I put into the cellar 48 last fall, having taken 1,200 pounds of honey from them during the season. Last spring I had 30 colonies. I keep a dairy in connection with bees, and they work well together. This is my third year in bee-keeping. I could not very well get along without the BEE JOURNAL.

A. J. PEDERSON.

St. Paul, Minn., April 4, 1893.

Every Colony Wintered All Right.

Winter is now about over, and I find that every one of my colonies has come through all right. We had a very severe winter, the thermometer registering 25 degrees below zero part of the winter. Some of my neighbors have lost almost all their colonies. Some that took my advice in preparing for winter, have lost none. The last three days have been nice and warm, and the bees are bringing in pollen from the willow.

G. W. BELL.

Bell's Landing, Pa., March 30, 1893.

First Flight for 140 Days.

The thermometer registered 64 degrees in the shade to-day, and bees are lively—what are left. It was the first flight since the middle of last November—nearly, or quite, 140 days. CLARK A. MONTAGUE.

Archie, Mich., April 3, 1893.

Bees Wintering Well.

My bees are wintering well. I have 31 colonies in the cellar, and they will be confined about two weeks yet. I like the eight-frame Langstroth hive the best of any that I have tried yet. CHAS. B. ALLEN.

Central Square, N. Y., March 27, 1893.

Bees all Wintered Well.

I put 46 colonies of bees in shape for winter last fall as follows: 12 colonies in 2-story chaff-hives, and the rest in 1-story chaff-hives. Now for this spring, at this date, I have 46 good colonies. They gathered the first pollen on March 24th, and again to-day. ELBERT GREELEY.

Lorain, O., March, 30, 1893.

Worth Two Dollars a Year.

I thought when the present publishers of the AMERICAN BEE JOURNAL purchased it, I would never like it any more; but if it was worth one dollar then, it is worth two dollars now. I think it has improved so much. You may consider me a life-time subscriber, if you continue it that long. I wish to thank you for what you have done for me through the BEE JOURNAL.

A. FINNEY.

Farm, W. Va., April 5, 1893.

Came Out in Fine Condition.

I put about 40 colonies of bees into the cellar last fall, and they have come out in fine condition. Every indication is that we shall have a good honey season.

The BEE JOURNAL has been a great help to me in caring for my bees, and any one in this business, whether for profit or pastime as in my case, cannot afford to do without it, because the correspondents are mainly men of experience.

W. F. BRUNING.

Mt. Pleasant, Iowa, March 25, 1893.

By Feeding they Wintered Well.

The season of 1892 left many bee-keepers without a pound of surplus in this locality. From 3 colonies, spring count, I increased to 6, and one of them stored 40 pounds of comb honey. I was obliged to feed a little sugar syrup to 3 of my colonies. They have wintered well, as I only lost one colony from the diarrhea. One of my colonies was short of stores, so I fed sugar syrup during the winter, and they are doing very well. My bees are all Italians, with the exception of one colony, which I expect to Italianize the coming summer. The BEE JOURNAL is a welcome visitor at my place.

WM. F. RENK.

Sun Prairie, Wis., March 22, 1893.

Very Cold Winter in Vermont.

I have just finished reading my last BEE JOURNAL with pleasure. I like it very much. Mrs. Atchley's "School in Bee-Keeping" is just O. K. I am a beginner in the bee-business, having 2 colonies in the cellar. One is all right, but the other is short of stores. I have been feeding them for over a month sugar syrup, and they seem to be all right yet. We have had a very cold winter here, but most of the bees are wintered in cellars. W. E. MORTON.

Huntington, Vt., March 28, 1893.

Good Prospects for Bee-Keepers.

The weather is now exceedingly pleasant, and colonies are building up very rapidly. There are good indications for prosperity among bee-keepers, at least such is the outlook. Button-sage is just starting to bloom in the lower valleys, while in this section, with its altitude, it blooms about 10 days or 2 weeks later. I am glad to see the AMERICAN BEE JOURNAL and *Gleanings* offering their testimonials against the adulteration of honey, fair and square. Good! Down with it! ALBERT UNTERKIRCHER.

Redlands, Calif., March 27, 1893.

Nameless Bee-Disease in Tennessee.

We are now blessed with fine spring weather, and the bees, under the influence of sunshine and bursting buds and flowers, are happy. Colonies, owing to their loss in the severe winter weather, are generally weak, but are building up nicely; but they will have to whoop it, to get strong enough for the honey-flow, which usually sets in here about May 15th. The poplar, or white-wood, affords our first crop of honey in this locality.

Bees are suffering some with the "nameless disease." Aside from the wintering problem, this disease is our greatest drawback. It makes its appearance in the early spring, when we can least afford to lose a bee. Its symptoms with us are various. Some bees will become hairless, slick and shiny; others will crawl out of the hive in a shake or quiver, and seemingly swollen, but in cases of this kind I have invariably

found that they were not swollen, but full of honey. The salt cure for this disease, with me, has proved a failure. I have tried it until I am satisfied that there is no efficacy in it, and that it is only a waste of time to fuss with salt where your bees are sick with bee-paralysis. My remedy is to stimulate brood-rearing by feeding, and in that way pull the diseased colony through. This, of course, cannot save the loss of bees, but it usually saves the loss of the colony, and if the colony is not too badly weakened, you may expect some surplus honey from it, but not a full crop.

The man that will discover a specific remedy for this disease, will merit a high reward. Bee-keepers should, and would, be willing to pay liberally for such a remedy. Prof. Cook. Dr. Miller, or Mr. Doolittle could, in my opinion, afford to experiment in this line. H. F. COLEMAN.

Sneedville, Tenn., March 30, 1893.

Wintered Nicely—No Loss.

Bees wintered nicely. Every bee-keeper that I have seen tells me all is well, and no loss. I have not heard of a single loss so far this spring. The bees are on a boom to-day, as the peach trees are coming into bloom, and pollen is plenty, and the willing workers are getting in full time.

SAMPSON STOUT.

Udall, Kans., April 4, 1893.

Wintered Finely—Cell Protector.

The past year was a poor one for bees. I got only 430 pounds of honey, whereas the year before I got 1,800 pounds, all extracted. Bees have wintered finely. I lost only one out of 33, caused by mice. Bees are working nicely on peach blossom, and the plum is in full bloom.

Here is a description of my queen-cell protector: Take a piece of cheese-cloth 1½ inches square, dip it in hot beeswax, then just wrap the cell so as to leave the point below the edge of the cloth, and it is ready to put in the hive. I have never lost one this way, putting it on the same time I take the queen out. I am well pleased with the "old reliable" AMERICAN BEE JOURNAL.

JAMES A. KING.

Sub Rosa, Ark., March 28, 1893.

Building Up Weak Colonies.

In looking my bees over on March 8th, I found one colony of Italians and one of blacks reduced to about one quart each, the Italians having some brood yet, but the blacks none, so I put both colonies into one hive, placing a division made of screen-wire between them. On April 2nd I looked them over again, and found both queens laying; but the blacks fell behind a good deal, so I took a frame of brood, bees and all, from the Italians, and gave to the blacks, thinking that they then had the same scent, but they started to fighting, and I ran for the smoker, and smoked them thoroughly, and closed the hive. The next morning, to my surprise, I found every black bee killed in the hive except the queen, which was treated very kindly by the savage Italians. Why did the bees not get the same scent in the one hive, having only two thicknesses of wire-screen between them? Why did they not kill the queen also? Will some experienced bee-keeper please give some information regarding the cause, in the BEE JOURNAL?

April 2nd was a warm day, and bees gathered pollen from rye flour, which I had placed out on boards. AUGUST BARTZ.

Chippewa Falls, Wis., April 7, 1893.

He Beguiles with "Miles" of Smiles.

I just could not resist writing and saying, Hurrah for the AMERICAN BEE JOURNAL! In reference to the new department of questions and answers, I say like Mr. Doolittle in his comments on the "A B C of Bee-Culture"—"You are just shouting here." Both times I have written questions, I did so almost in "fear and trembling," and was more surprised at getting an answer than I would have been if I had heard no more from it. So the editorial on page 327 made me feel good. I am much obliged for all the help I get from the AMERICAN BEE JOURNAL. I like it better than any paper or book that I have yet seen on bee-keeping. I wish its publishers unbounded success.

E. S. MILES.

Denison, Iowa, March 25, 1893.

Convention Notices.

PENNSYLVANIA.—The Susquehanna Co. Bee-Keepers' Association will hold their 12th semi-annual meeting at the Tarbell House in Montrose, Pa., on Thursday, May 4, 1893. All are invited. H. M. Seeley, Sec.

Harford, Pa.

CONNECTICUT.—The annual meeting of the Connecticut Bee-Keepers' Association will be held at the capitol in Hartford, on May 2, 1893, commencing at 10:30. All bee-keepers are invited to attend, and bring an exhibit.

MRS. W. E. RILEY, Sec., Waterbury, Conn.

NEW YORK.—The next meeting of the Allegany County Bee-Keepers' Association will be held at Belmont, N. Y., on May 4th, 1893, in the Hotel Belmont. All bee-keepers are invited to attend and make it what it should be—an interesting meeting.

H. C. FARNUM, Pres., Transit Bridge, N. Y.

Alley's Queen-Rearing book, or "Thirty Years Among the Bees," gives the result of over a quarter-century's experience in rearing queen-bees, and describing the practical, every-day work. By Henry Alley. It contains an "Appendix," showing the improvements made in queen-rearing the last four years. Very latest work of the kind. Nearly 100 pages, with illustrations. Price, postpaid, 50 cents; or clubbed with BEE JOURNAL one year, for $1.30.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, April 22nd, 1893 :

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

CINCINNATI, OHIO.—There is a fair demand for extracted honey at 6@8c. There is no choice comb honey on our market, and prices are nominal at 14@16c. for best white.
Beeswax—Demaud good.at 24@27c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Comb honey is well cleaned up. Fancy white is selling at 14@15c. Off grades, 12@13c., and buckwheat, 9@10c. Extracted is dull, and the market well stocked with West India honey, which sells at from 68@75c per gallon. Beeswax, 26@28c.
H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs.. 9@10c. J. A. S. & C.

ALBANY, N. Y.—Honey market quiet at following prices : White comb, 14@15@16c ; mixed, 12@13c ; dark, 10@11c. Extracted, white, 8@8½c ; mixed, 7@7½c ; dark, 6½@7c.
Beeswax, 26@30c. H. R. W.

Mrs. J. P. Cookenbach, whose advertisement appears on page 517, will be glad to have you write to her to secure a good place to stay during your visit to the World's Fair the coming summer. The BEE JOURNAL refers its readers and friends, with much pleasure, to Mrs. C., who will do the right thing by all who give her an opportunity to help them.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.
F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway.

San Francisco, Calif.
SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.
J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.
HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.
H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.
CHAS. DADANT & SON.

Cincinnati, Ohio.
C. F. MUTH & SON, cor. Freeman & Central avs.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

WANTED TO EXCHANGE — A 30-Horse Power Kokomo Engine and Boiler (stationary) in good condition — for a Portable Thrashing outfit (must be in running order).
H. L. VonLienen, Somerset, Saline Co., Ills.

TO EXCHANGE — High Grade Safety Bicycle, for Honey or Wax.
17Atf J. A. GREEN, Ottawa, Ill.

WANTED—To exchange, a claim 1 mile from a thriving town in Logan Co., Okla. Ter., for land in Northeastern Texas. Southwestern Arkansas, or Northwestern Louisiana, contiguous to a river, in a good bee-keeping range. Correspondence solicited.
Address, RUFUS WILLIAMS,
15A4t Crescent City, Logan Co., Okla. T.

Advertisements.

This Adv't will Appear but Twice !

WE have on hand the following widths of Planer Sawed Sections, First Quality : 1 15-16, 1¾, and 7-to-the-foot—all 4¼x4¼ One Piece V-groove. Parties using said widths can get a bargain by writing for prices.

Our Polished Sections
are the finest and smoothest Sections made. Write for prices.
WAUZEKA MFG. CO.,
16A2t WAUZEKA, WIS.

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., MAY 4, 1893. NO. 18.

Mr. Franklin Wilcox, of Mauston, Wis., is in Chicago looking after the honey and wax exhibit of his State at the World's Fair. He gave the BEE JOURNAL office a pleasant call last week. The Wisconsin exhibit will be about two-thirds comb honey, and the balance extracted.

Prof. C. L. Strickland, who has been conducting the Bee-Experiment Station at Peabody, Kans., has been obliged to give it up on account of ill-health. He will return to his former home at Maryville, Mo. We regret this very much, for Mr. Strickland was doing a good work, and we hope he may soon be able to again undertake it.

Mr. G. K. Hubbard, of Ft. Wayne, Ind., called at the BEE JOURNAL office last Thursday. He came to Chicago to look after his exhibit of bee-keepers' supplies at the World's Fair. Mr. H. is a pushing young man, and has, by dint of hard, honest work and good judgment, built up a large trade. He went to California last year hoping to find relief for Mrs. H. whose health is very poor, but little benefit resulted. We hope that in some way she may soon be enabled to regain her former strength.

Miss Wilson's Surprise Party.—As requested on page 362, we have indirectly learned how the surprise biographical sketch and picture affected Miss Emma Wilson. Dr. Miller tells us about it in the following:

FRIEND YORK:—I tried to get Miss Wilson to write about her surprise, but she seems non-communicative on that point. When I first asked her what were her impressions on seeing herself in black ink in the AMERICAN BEE JOURNAL, she replied, "I felt very queer here"—and her hand made a rotary motion over the region where the center of circulation is supposed to be located. She looked as if she had a notion to faint!

C. C. MILLER.

Whew! we didn't contemplate any such effect! I'ts a grand thing that Miss W. was near a good doctor, or we might have found ourselves in a nice box—we didn't mean in our coffin, exactly, though we have seen some "nice boxes" in that line. Without further *grave*ly joking, we hope, now that Miss Wilson has recovered, she will forgive us all around—seeing we won't have a chance to do the same thing again very soon.

The Comb-Leveler, invented by Mr. B. Taylor, of Forestville, Minn., shown on page 567 of this number of the BEE JOURNAL, promises to be a good thing. He has prepared machinery for making them, and the price of metal part will be 60 cents each, by mail, postpaid; with a neat box for the lamp, by express, $1.00; with box knock-down, by mail, $1.10. After a season's use, if the machine does not prove all that is claimed for it, the money will be cheerfully returned by Mr. Taylor, for he believes each super of comb will be improved enough to pay for the leveler.

The American Apiculturist for May was, as usual, the first of the bee-papers for this month to put in an appearance. It reached our office on April 26th. Bro. Alley "gets there" on time, which is something we can appreciate, for we are great believers in *promptness*, as our readers well know who have from week to week received the BEE JOURNAL so regularly for so many years.

Bro. Alley devotes his May number to a thorough consideration of the "Queen-and-Drone Trap," in comparison with self-hivers. Bro. A. says: "It must be evident to all that there is no particular need of self-hivers in the apiary. The queen-trap will do all the work." He quotes a great deal from the *Review* for March and April, and concludes that "Editor Hutchinson strongly decides in favor of the trap as the most practical arrangement for managing bees at swarming-time."

Frame Size for Queen-Rearing.—Mr. G. M. Doolittle, in a carefully written article in *Gleanings*, in answer to "What size of frame shall we use in queen-rearing?" says that after years of trial he has failed to find any special advantage in a small frame, but rather disadvantages. In view of this, he advises using the same size frame in the nucleus hive as has been adopted for general use in the apiary.

Some Queen-Rearing Lessons will soon be given by Mrs. Atchley in her department of the BEE JOURNAL. It will form a portion of the lessons of "Our School in Bee-Keeping" series, and will be mainly a recapitulation of the "Queen-Rearing Dialogue" published last fall. A number of the new subscribers have urgently requested that this be done, and while it will benefit them, it will at the same time refresh the minds of the older readers.

Candy for Spring Feeding.—In *Gleanings*, Mr. J. O. Leinhart, of Clinton, Tenn., gives this method of fixing candy for feeding bees in the spring:

In the spring, lay a newspaper on the floor or table, and form a box by putting square sticks under the edges of the paper. Pour in the candy; when cool, break it in pieces, and put it into your basket, and go to the apiary and pull back the quilt from over the cluster; give a piece according to your colony, with the paper side up, and you can tell when it is gone, by the bees carrying the paper around the entrance—that is, if they can fly.

In a foot-note, following the above, Bro. Root says: "Bees carrying paper out at the entrance would certainly indicate when the food was used up. A rather bright idea."

The End of the Rope has not yet been reached in apicultural things, says Mr. H. P. Langdon, of house-apiary fame, in the last *Review*. He is "astonished that some of our *head-lights* should think and say that bee-keeping has reached the climax of perfection, or 'reached the end of the rope.' Why, last year came self-hivers, and next will come non-swarming without extra work, and with more and a better quality of honey; THIS I KNOW TO BE A FACT. Watch for it." Verily, there is to be something "new under the sun." Keep your telescopes in good repair, and examine all the "stray straws" you may see, for 'tis said that "straws show which way the wind blows."

The Illinois Convention Report—Mr. Jas. A. Stone, of Bradfordton, Ills., the Secretary of the Illinois State Bee-Keepers' Association, desires us to announce that the postage provided for the sending out of the First Annual Report of the Illinois State Bee-Keepers' Association is exhausted, though he still has on hand about 500 copies. The Executive Committee have decided that any party living in the State of Illinois can have a copy of the Report by forwarding, with their address, 6 cents in stamps to pay postage on the same; and from those living outside of the State, 20 cents in stamps will be required. Send to Secretary Stone at once if you would like a copy. It will pay you to do so.

Bees and Watering Troughs.—It has been a question with some bee-keepers how to keep their bees away from watering-troughs, as they often annoy horses and other farm stock that drink from the trough. Mr. Edw. Smith, of Carpenter, Ills., in *Gleanings*, recently said that he greases the tops of the watering-troughs with any kind of old grease, with a little kerosene mixed with it, and has not had a bit of trouble with bees in them since.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Hive that Had Diseased Bees.

Is it injurious to put bees into a hive where a colony has died with diarrhea?
Sherwood, N. Y. GEO. L. WINTERS.

ANSWER.—No; the bees will clean it out, but if too filthy they might desert.

One or Two Rowed Zinc.

Which is the better, one or two rows of zinc for queen-excluding honey-boards? Is it quite necessary to use two rows? Give me your best advice.
Bishop Hill, Ills. D. LINDBECK.

ANSWER.—Opinions differ. Perhaps it doesn't make much difference.

Origin of the Honey-Bee.

Please give in the BEE JOURNAL information as to the substance and process through which the honey-bee originated. C. S. PIZER.
Franklin, Pa.

ANSWER.—Probably you can get no more reliable information than that contained in the first chapter of Genesis.

Honey or Sugar Syrup for Breeding.

I bought 5 good colonies of bees of one of my neighbors last week for $30. There are plenty of bees in every hive, but they are light in stores. I have about 20 pounds of choice comb honey all in one-pound sections. Would you give them that, or feed sugar syrup? Which is the better to breed up on? The bees were all wintered in a good, dry cellar, and were not taken out until April 3rd. WM. KITTINGER.
Caledonia, Wis., April 3, 1893.

ANSWER.—If the honey were worth no more than the sugar syrup, we should prefer it to feed. There may not be a great deal of difference, but we know that honey is the natural food for them, and the little pollen that may be floating in it gives it some advantage. But at the present prices, choice comb honey being high, and sugar very low, we don't believe there is as much difference in the value as in the price of the two, so we think we should sell the honey (provided we didn't need it on our own table) and feed sugar syrup. The bees can probably get enough fresh pollen to make up any difference, and if they cannot get pollen enough from natural sources, it may be well for you to feed some kind of meal as a substitute.

Getting Bees to Empty a Super.

I began bee-keeping last summer with 3 colonies, two of which were in dovetailed 8-frames hives, and the other was in an old box-hive. The two in the dovetailed hives wintered very well on the summer stands, but the one in the box-hive either froze, or was smothered to death. They did not starve, for there is just lots of nice comb honey in the hive. Now would it be advisable for me to put an empty super on one of the dovetailed hives, and take the honey out of the box-hive and put into this empty super? Would the bees carry it down and put it in the empty combs of their own hive? If they would, they would be all ready to work in the super when the honey-flow comes.
WALLACE H. MCCORMICK.
Ransom, Ills., April 4, 1893.

ANSWER,—Sometimes they will carry it down in good shape, and sometimes they will not. If they have a good supply below they may leave it. You may succeed better by putting it in an empty super or hive below, that is, if your hives have loose bottom-board. The farther it is below their combs the surer they are to take it.

Swarm Scattering all Over a Tree.

I had 3 colonies of black bees, spring count, in 1892, and about May 12th one swarm came out and alighted all over a small quince-tree. The tree was black with bees, and I had to sprinkle water on them to make them bunch up, and then I hived them. No. 1 swarmed, and went back into the old hive again. Then No. 2 swarmed, and I put them into a hive. They stayed in, but had alighted the same as No. 1, all over the same bush. No. 3 swarmed well; No. 2 and No. 3 stored each about 15 pounds in the supers. No. 1 came out again, and scattered all over the tree. I

put them into the hive, and set them between No. 2 and No. 3, not over 8 inches apart. No. 1 left the hive again, and went into No. 3's hive. No. 3 carried them out dead. One old colony was destroyed with moth-worms, so I have 4 colonies in good condition. Why did they alight all over the tree? The wind blew very hard both times. Did that cause it? J. C. DILL.

Morganville, N. J., March 18, 1893.

ANSWER.—It is nothing unusual for bees to settle in a scattered way over a tree, and a strong wind would increase the tendency in that direction.

Queer Actions of a Colony.

On March 14th I had a colony to come out and settle on the other hives. I caught the queen, clipped her wing, and took her back, but the bees would not follow, and all perished. The queen was all right, and they had plenty of honey. It was a strong colony, with some young brood. What was the matter? I have been keeping bees more than ten years, but never had such a thing occur. ALLEN SPRINGER.

Rose Bud, Ills., March 20, 1893.

ANSWER.—This case looks very much like one of spring dwindling, only you say it was a strong colony. Possibly some one may account for their conduct, or it may be one of those cases where bees seem to become demoralized in some way and act abnormally.

THE LAND OF DZIERZON

CONDUCTED BY

H. REEPEN,

OLDENBURG, GROSSHERZOGTHUM, GERMANY.

Apis Dorsata—Poisonous Honey.

Introduction of Apis Dorsata in America.—There has been written already a good deal about this bee in the "Old Reliable," but perhaps I have something new to say.

Efforts have been made to get up capital by shares, but there is only very little money necessary to introduce their race. Try to get communication with some English or American residents in Ceylon; for instance, with Mr. Holloway, who lives at Wattagama, Maria Estate, near Kandy. When Mr. Rud. Dathe, of Eystrup, Germany, went over to Ceylon to get the "Dorsata," the assistance of this gentleman was very valuable to him. Dathe first spent a lot of money for bull-carts, a dozen of natives for assistance, etc., and many a day was spent in those immense virgin forests to catch the Dorsata on the giant trees. But afterwards he caught plenty of colonies on Maria Estate, doing nothing but smoking his pipe and lying on an easy chair. *He only put some honey in the open air*, and as the Dorsata migrates from place to place, several swarms soon found the honey, and settled on the surrounding trees, and were easily caught. All hives were filled in a few days.

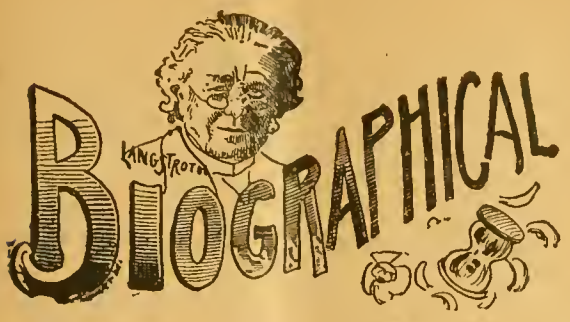
But if, for instance, Mr. Crum, of Streator, Ills., would go himself, he need not be afraid of fever. Those high mountain districts of Ceylon belong to the *healthiest* parts of the world. I know half of the world, but never met with a more healthy place.

A crossing with *Apis mellifica* is impossible, as the Dorsata is quite another kind of bee. Rud. Dathe noticed that worker-bees of the Dorsata, when brought on brood of the *Apis mellifica*, *took no care of it*, and within a few days the brood died for want of food.

Poisonous Honey at Trebizond.—Mr. A. I. Root inquired in *Gleanings* some time ago for the address of some proper person who lived near that locality. He may write to the English Vice-Consul Bilicki, who will confirm that all is correct that Zenophon once wrote, viz.: That the honey of Trebizond is *always* poisonous on account of the "deadly night-shade" which grows there in abundance. People keep a good many bees there, but only on account of the wax. There is another kind of poisonous honey in the South of Africa, in Caffraria, but this honey is only poisonous at the time when aloes is blooming.

H. REEPEN.

Bee-Keeping for Profit.—We have just issued a revised and enlarged edition of Dr. Tinker's book, called "Bee-Keeping for Profit." It details his most excellent "new system, or how to get the largest yields of comb and extracted honey." The book contains 80 pages in all, and is illustrated. Price, postpaid, 25 cents, or clubbed with the BEE JOURNAL for one year, for $1.15.



AMOS IVES ROOT.

If all has worked as we had planned it should, this biographical sketch with picture will be a complete surprise to

A. I. ROOT.

Bro. A. I. Root. We hope it is, for we cannot now think of any one whom we would rather give a pleasant surprise than to our brother publisher and esteemed friend.

If there is one man to whom bee-keepers all over the world owe an everlasting debt of gratitude, for his practical instruction and help in all departments of their pursuit, that man is A. I. Root. Dr. Miller has tried to tell some of the good things about him, but were he to tell all he could think of, we could yet say that "the half has not been told."

One has only to read his unrivalled *Gleanings in Bee-Culture*, to get an idea of the marvelous man behind it all, and to learn what can be accomp hed by untiring and unselfish devotion to a great and glorious object.

Although we have met Bro. Root only once or twice, yet we feel that in him, as in his honored son Ernest, we have a true friend and brother in whom we can repose the utmost confidence, and feel that we shall be the better for being permitted to count him among those whose friendship and counsels we most highly prize.

Ever since we took control of the old AMERICAN BEE JOURNAL, we have had much reason for esteeming Bro. Root for his brotherly interest in our welfare, and for his readiness to speak an encouraging word in our behalf whenever opportunity presented. We admire him for the good he is doing, for the host of friends he has worthily won, and for his high Christian character, the exemplification of which is so clearly shown in his daily walk and conversation. That he may live yet many years to continue to further the best interests of the cause which he has done so much to honor and bless, is our sincerest hope and earnest prayer.

We now present to our readers what Dr. Miller "knows" of Bro. Root and his great and successful business enterprises:

One who has never visited Medina, O., can hardly have any just conception of the immense establishment that is carried on there in the interest of bee-keeping. Combine a blacksmith-shop, a tin-shop, a paint-shop, a machine, carpenter, and I don't know what else, with a large printing establishment, a store and lunch-room attached—all on a large scale—and you have still to see it, and

spend a good deal of time traveling over it, before you have any fair conception of it. Of course when I say Medina, every bee-keeper knows I am talking about the establishment of A. I. Root. Just how much money is involved in the concern, I don't know, but I suppose I might have known if I had asked, for friend Root never seems to have any secrets, but I know that some years ago $100,000 were in it, and I suppose it has been growing ever since.

Perhaps I would better say before going any further, that this is meant to be a biographical sketch of Amos Ives Root, but in dealing with such an erratic customer, I can't be expected to follow any of the biographical rules, but will say some things about him with no special thought of close connection, only trying to tell what I think I would be interested in hearing if I had not before heard it. At different times I have spent quite a number of days at Medina, and I believe I know Mr. Root fairly well.

But I'll try to follow ordinary custom long enough to tell some of the things that I could not learn by personal observation, and if you want to know just how much of what I say is original, and how much is stolen, you can refer to page 956 of *Gleanings* for 1888, where a sketch written by Ernest is to be found. Of course you know that Ernest is the oldest son—but there, I'm all out again, for I ought first to tell about A. I. himself.

Well, he was born "in a log house about two miles north of his present business," and that's as near to the date of his birth as I can get from the aforementioned sketch, but I think it was about '38 or '40. He was a frail child, and his father had little hopes of raising him, although the neighbors assured him his wife would not let him die. Among his early hobbies were poultry, windmills, clocks, electricity, chemistry, etc. He did not take kindly to feeding pigs, or, for that matter, general farm work, although he took particular delight in gardening. One of the jobs he disliked was churning. So, to cater to his mechanical turn, and at the same time get out of a disagreeable task, he rigged a windmill, and let the wind bring the butter.

At the age of 18, a craze for chemistry and electricity led him to make a lecturing tour, in which he gained no great amount of wealth, but did gain that which was afterward of greater value to him—a knowledge of human nature. A further addition to this stock of knowledge was gained by his experience as "schoolmaster" in a tough country school, where for some time the larger boys had made good their threat that they would "lick and put out" any teacher the directors might select. But this time the slender young man, Root, by virtue of a wise use of what physical strength he had, and a still wiser course as a tactician, "licked," and made friends of the bullies.

His next hobby was clock-work and jewelry, and without capital, he literally worked himself into a business so large that the firm of A. I. Root & Co. employed over a dozen men and girls in the manufacture of gold and silver rings, chains, etc., from $200 to $500 in coin being weekly used up in this way.

In 1861 he was married to Miss Susan Hall, and to his wife he very justly attributes much of his success in life. Quiet and unassuming, keeping herself always in the background, none the less she is a real power, and a power always for good. There are five children in the family. Ernest is now nearly 31, then comes Maud (Mrs. J. T. Calvert), then the two girls, Constance and Caddie, then the youngest son, Huber.

In 1865, the capture of a runaway swarm of bees started Mr. Root into bee-keeping. Being one of the intense sort, he went into bee-keeping with all his might. Not long after this, I made my first visit to Medina, having learned about Mr. Root in some way through the AMERICAN BEE JOURNAL, to which he contributed some unique, practical and very readable articles over the *nom-de-plume* "Novice." A short time before a fire had destroyed his store, his jewelry business was crowded into his house, and another visitor there at the time, made beds rather scarce, so I slept that night with Mr. Root. While getting ready for bed he talked about the possibilities of a sugar-bush in connection with an apiary. After we got in bed the subject was continued, and we talked about it, at least he did, until it was pretty late, and when I went to sleep he was talking about a plan to have a bee-hive under each maple-tree, with a spout of some kind to let the sap run directly into the hive so the bees needn't fly at all.

That settled me in my opinion of him in one respect, and I've never seen occasion to change my opinion. He's a hobbyist—one of the hobbyest of hobbyists.

The next morning he showed me his bees, and I showed him how to smoke bees by blowing with my mouth on a burning brand. Smokers were then un-

known, and he was quite pleased with the new acquisition, and before I had got very far away, he had succeeded in setting fire to the sawdust and burning up, I think, one of his colonies.

In 1869, I think it was, he got $1,500 for the honey from 48 colonies. A shower of inquiries induced him to send out a circular answering the main part of the inquiries. Several editions of this circular were sent out gratis to all applicants, and then it occurred to him to issue a quarterly under the name of "Gleanings," at 25 cents a year. The cordial reception to this led him to change it to a monthly before the issue of the second number, and at a later date it was changed to a semi-monthly.

In the meantime he commenced to manufacture bee-keepers' supplies, his total force being himself, a windmill, and the lad Ernest. By the way, I think the windmill is one of his most enduring hobbies. For a time *Gleanings* was printed with a windmill, and of late years an abundant supply of water is furnished to the factory by an immense windmill on an adjacent elevation. On one of my visits he said to me, with much the tone he would have used if I had called in question his loyalty to his government, "Why, you haven't been to see the windmill!" From that small beginning with the windmill, gradually, year by year, grew the largest bee-supply establishment in the world, of which I spoke in my opening paragraph. That business was his hobby, and he threw into it all his energy, and by prompt and fair dealing, trying to do always as well or a little better than agreement, he has obtained a strong hold upon customers in all parts of the world.

Other hobbies have claimed his attention, carp-raising being one of them; among the rest market gardening, and this seems to have a lasting hold, partly for his love of the business itself, and partly because it furnishes a means of employment for many who need it.

His latest hobby is, I believe, the bicycle.

With the strong impulses he possesses, he is not likely to hold middle ground in anything. So he has put his religion into his business in such a way that some who do not know him, accuse him of doing it for ostentation and gain. Whoever comes to know him well enough can never hold such a view. Whatever else they may doubt about him, they will never doubt his utter sincerity. Indeed, ostentation is no part of the man in any respect. I happen to know of more than one occasion in which he has used money liberally for what he considered the general good of bee-keepers, without allowing it to be known to more than two or three participating.

Every day the factory whistle sounds 10 minutes before 12, to give all the employes an opportunity of 10 minutes at a prayer-meeting held in the largest room of the factory, thus taking none of their own time for it. Aside from his usual church and Sunday-school attendance, part of his regular Sunday programme is to visit his aged mother—one of the sweetest old saints I ever knew—and on the way to stop at the county jail, to be locked in with whatever prisoners happen to be there, for half an hour, or an hour, to try to lead them toward a better life. On Saturday, in the midst of business hours, he goes a mile up town to attend the church prayer-meeting.

In personal appearance there is nothing remarkable about him. You would pass him in any crowd without ever thinking of him as the steam-engine that he is. Rather under the medium height, and of slight build, he atones for his lack of distinguished appearance by having a good-looking son, of commanding presence.

Seen at a distance, you will respect A. I. Root for his remarkable business qualifications. Seen at shorter range, you will at first be puzzled to know what to make of him, but as you get to know him better, you will give him a high place in your esteem, as a man of warm heart, unselfish earnestness, and thorough integrity. C. C. MILLER.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.
May 18, 19.—South Texas, at Wharton, Tex.
T. H. Mullin, Sec., Eagle Lake, Tex.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Removing Honey from Brood-Combs to the Sections.

Query 869.—I frequently have more honey in brood-combs than I wish to extract, not having good sale for it. Is there any profitable way of inducing the bees to store the honey from these frames in sections, without extracting it?—N. H.

I think not.—JAS. A. GREEN.

I do not know.—MRS. L. HARRISON.

If so, I am not aware of it.—P. H. ELWOOD.

"Contract" and crowd.—WILL M. BARNUM.

I have had no experience in this kind of work.—A. B. MASON.

Why not feed it in the spring, then run all for comb?—C. C. MILLER.

No, sir. Extract and dilute with one-fifth water, and feed back.—MRS. J. N. HEATER.

If I were going to get the honey in sections, I would extract it and then feed it to the bees.—E. FRANCE.

It might be done by restricting the brood-nest and uncapping the cells, and putting the combs between combs of brood.—M. MAHIN.

Not that I know of. I have never found it profitable for bees to handle honey the second time in any way.—EMERSON T. ABBOTT.

If the bees are storing in the supers, they will sometimes carry the honey from the brood-combs, above, if we uncap them.—A. J. COOK.

I have never found any such way, and I doubt whether honey can be fed back at a profit. Keep these frames to use in impoverished colonies.—J. E. POND.

I have never tried it, but would think if they stored "sugar syrup" when placed out for them, they would do the same by the combs mentioned.—JAS. A. STONE.

After it is stored in frames it is cheaper and better to extract; and if it is slow sale in your home market, ship to a better one, provided you cannot work up a home market.—H. D. CUTTING.

I don't know. If you put two combs in the center of each hive into which you put a swarm, the bees would probably carry most of it into the sections, if honey was coming in pretty well.—R. L. TAYLOR.

Use your judgment, and don't have too many combs left, and use what you do have left for spring feeding. There is nothing better. Such work as is proposed above is at least not advisable.—J. H. LARRABEE.

I don't know of any. But I should take steps to prevent a like occurrence in the future, by contracting the hive. Get the honey stored in sections instead of in brood-frames where you don't want it.—EUGENE SECOR.

N. H. should prevent the bees from storing so much honey in brood-combs. It will be found more profitable to do this than to try to get the bees to uncap their honey and put it where they do not want it.—G. L. TINKER.

I know of no sure way of inducing bees to remove honey from comb in the hive to the sections. Shaving the capping off does not always succeed, as the bees frequently only cap it over again. Better extract and feed.—C. H. DIBBERN.

You can, by placing the combs in a box or hive in front of the entrance of a colony that is working in the sections. Communication between colony and combs must be managed so that no robbers can get at them.—J. P. H. BROWN.

Not that I know of, unless you can call the changing of this honey into young bees, and having more bees to gather an extra amount from the fields and store it in the sections, a profitable way of using that honey. I call this a *profitable* way to use such honey, but perhaps others would not.—G. M. DOOLITTLE.

I can't say about the profit part, but you can get your strong swarms to take the honey out of the combs by hanging them, a few at a time, in an extra hive, set under the brood-nest of those you wish to feed. It will hasten matters somewhat if the lower hive has more light than the upper hive, by using a piece of glass.—S. I. FREEBORN.

No. Should such a condition occur in my hives, I would leave the honey in the "brood-combs" until spring, and these full combs would help to put the brood-nest in condition early in the season, and I would get the more surplus by it. I don't see how your "brood-combs," in the breeding season, where most of them ought to be filled with brood, could contain a great amount of honey. But such a state of things might occur in the

fall, after breeding is over. I can feed it back and convert it into comb, but I have to extract it first.—G. W. DEMAREE.

No way that I know, without extracting it. You might extract the honey, and contract the brood-nest, put on unfinished sections over queen-excluding honey-boards, and feed it back to them, and get unfinished sections profitably finished; but to get sections filled from the start, I think would be unprofitable. If I had such honey I would try to use it profitably some other way.—MRS. JENNIE ATCHLEY.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Report of the Texas State Bee-Keepers' Convention.

The 15th annual convention of the Texas State Bee-Keepers' Association met at the apiary of Mrs. Jennie Atchley on April 5 and 6, 1893.

FIRST DAY—MORNING SESSION.

At 10 a.m. the meeting was called to order by Pres. W. R. Graham, who stated the object of the convention, and said he was proud to see so many present, and that he knew bee-keeping was now on a solid basis, and increasing in Texas.

The roll was called, and the following bee-keepers responded:

W. T. Pryar,	A. H. Jones.
T. E. Miller,	Dr. W. E Smith,
Melvin Kimbrough,	H. L. Bolton,
A. M. Tuttle,	J. A. Meeks,
P. G. Carter,	W. H. Bailey,
Jason Ayer,	Joel Simmons,
G. P. Cleny,	D. T. Willis,
J. R. Atchley,	N. N. Atchley,
T. E. Carter,	C. M. Davis,
Willie Atchley,	C. J. Cutler,
W. R. Graham,	E. Atchley,
J. A. Bailey,	Mrs. Jennie Atchley,
Mrs. Ellen Atchley,	Levi Williams,
Charlie Williams,	Miss Amanda Atchley,
Charley Atchley,	B. B. Steed,
Wm. Stapleton,	John Huckabee.
W. H. White.	Dr. W. R. Howard,
W. E. Pennington,	H. Pennington,
J. T. Spradling,	T. A. Beasly,
T. E. Phillips,	J. R. Graham,
J. F. Teel,	J. S. Robinson,
Mattie Buzley,	Martha E. Robinson,
S. J. Duff,	Josie Huckabee,
E. S. Cathey,	Miss Leah Atchley,
Myrtle Lloyd,	Dollie Huckabee,
Miss Nannie Litton,	Miss Maud Robinson,
Sammy Litton,	Miss Nellie Graham,
Miss Addie Graham,	Dr. W. K. Marshall,
	J. D. Givens.

All then joined in singing a hymn, after which was prayer by Rev. W. K. Marshall, D. D. Another hymn was sung, and then the minutes of last meeting were read and approved.

A committee of three was appointed to arrange a programme for the day, composed of E. J. Atchley, A. H. Jones, and J. A. Bailey.

While the programme was being arranged, Dr. Marshall, in his usual good-natured manner, related an interesting story of early bee-keeping away back to the straw-skep time, and the story held the listeners almost spell-bound.

The committee then brought in the following questions, which were discussed and considered:

"Does any one present know of the death of one of our numbers?" None was reported.

NOISE AT SWARMING TIME.

"Does a noise made while bees are swarming induce them to settle?

Dr. Marshall said he was passing by a farm-house not long since, while there was a swarm of bees in the air, and that all the children and the mother were ringing bells, blowing horns, and beating tin pans, and they made a success of it, as the bees settled. Of course the racket did it! This brought laughter.

C. M. Davis said he believed in making a noise, as the loud hum of the bees was more or less drowned, and it frustrated them and caused them to cluster. He believed water, dirt, or anything thrown among the bees, was a great help to get them to stop and cluster. It was decided that anything to break the ranks of swarms would induce them to settle. Even an absconding swarm could be stopped by water or dirt.

BEES CLUSTERING BEFORE LEAVING.

"Do bees ever go off without first clustering after issuing from the parent hive?"

A. H. Jones had one swarm to leave without stopping, but it settled ¼ mile away, at the home they had selected. Others reported that swarms left without clustering, but that their selected

homes were near by, and it was decided that some swarms do leave and go clear off without clustering.

OLD QUEENS WITH FIRST SWARMS.

As it was right in the swarming season, it seemed that every one was free to talk about swarming. The next question was, "Does the old queen always go off with the first swarm?"

J. Bolton, Dr. Marshall, and others, said that in most cases the old mother queen led off the first swarm, but when bad weather prevented their swarming until a young queen hatched, she would kill the old one and lead off the swarm. But, after a discussion, it was decided that it was the oldest queen in the hive that came off with the first swarm.

QUEENS WITH 2ND AND 3RD SWARMS.

"How many queens usually come off with a second or third swarm?"

Dr. Marshall said that in natural swarming there were usually only one or two cells started the first day or two of their preparations to swarm, and that about the third day they usually start the rest, and that, as a rule, there were only one or two queens with a second swarm, but that a third swarm may have 6 to 10 queens, according to the amount of cells they started.

As 12 o'clock was drawing near, and as the day was warm and pleasant, the convention was held right among the bees, under the shade of the trees; and as most of the bee-keepers were beginning to "swarm out," and stroll about through the large apiary and pleasant woodland, and into the factory, and all over the place, a motion was carried to adjourn for dinner, to meet at 2 p.m.

Mrs. Jennie Atchley and W. R. Graham then threw open their doors, and gave the bee-keepers free and full access to the premises, W. R. Graham entertaining and feeding 30 bee-keepers, and Mrs. Atchley 28. For two hours all seemed to enjoy themselves like a lot of school children at recess, forming themselves into little groups, here and there, each one talking about his or her best bees, and best management, etc. These recesses are very interesting, as many will talk at recess when they will not say a word in school.

(Continued next week.)

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

Report of the Indiana State Bee-Keepers' Convention.

Written for the American Bee Journal

BY WALTER S. POUDER.

(Continued from page 529.)

FIRST DAY—EVENING SESSION.

The convention was called to order at 8 p.m., with Pres. Russell in the chair, who said: To commence our evening session, we will have first an essay by Mr. J. B. Catterson, of Brownsburg, on

The Winter Problem in Bee-Culture.

The person who successfully winters his bees is a successful bee-keeper, because if he has his bees in proper condition when the honey season comes, they will do the rest themselves. What I shall say in this essay is intended to benefit the average bee-keeper of Indiana, and localities having a similar climate.

The work of preparing the bees for winter must begin early in the fall. First, they must have food sufficient to carry them through the winter and until warm weather comes in the spring; and perhaps better still, enough for all purposes to last them until they can gather their living themselves.

Second, they should be properly housed, and the colonies all made strong by uniting the weak ones and equalizing their supplies. I have kept bees for the last 25 years, and for 10 or 12 years I have been very successful in wintering them, much more so than most of my neighbors, and have secured larger crops of honey as a result. I therefore claim a fair idea of bee-keeping, but do not claim to be a specialist or an expert in any line of the business.

A good crop depends almost wholly upon a strong, healthy colony in the spring, and such a colony depends upon proper care and management in the fall. Have your bees ready for winter when winter comes, and then let them alone until winter is over. I have a

MASSACHUSETTS AGRICULTURAL COLLEGE

bee-house in which I winter my bees successfully. I have never used a cellar, but what I have known of cellar-wintering, from those who do use it, I do not think it is the best way, and since most people winter their bees on the summer stands, I shall confine myself to a discussion of that method.

As soon as the frost has stopped all honey-gathering, I look through the hives and arrange the frames by exchanging, if necessary, so that each colony will have not less than 25 pounds of ripened honey. If some of it is, however, unsealed, it is a matter of small consequence. Place the frames having the least honey in them in the center. Summer-gathered honey is perhaps the best for winter use, but I have never seen bees suffer by the use of fall-stored honey in wintering.

Next lay two slats ⅜x⅝ across the frames, about 5 inches apart, so that the space between them will be in the center of the hive over the cluster. Bevel the ends so that the quilt will lie down closely at the ends. The slats should be as long as the width of the brood-chamber; then across these nail others in length as long as those are wide apart, in sufficient numbers to hold up the mat when placed upon them. This makes a space over the cluster through which the bees can pass over the frames in cold weather to the honey in the outside frames. In addition to this, holes may be cut through the combs for the same purpose, if thought necessary.

Over this frame arrangement I spread a heavy woolen cloth, entirely covering the brood-chamber, and then I partly fill a common coffee or sugar sack with excelsior, forest leaves, chaff, or an equivalent, and press it down evenly on the frames. Then I tilt the hives forward about one inch in twelve, leaving the front entrance entirely open. The hives are now ready for whatever outside protection is desired to give them.

To all who wish to further protect the hives, I would suggest this plan as a cheap and handy one:

Place the hives in rows facing east or south, so that there will be about 10 inches of space between them. Then place a protection of boards all around them except in front, leaving a space of 10 inches between the boards and the hives, into which and between the hives pack leaves, chaff, cut-straw, or excelsior, so that it will come above the brood-chamber, and let it remain this way until May, or longer, if the weather is fickle. All should be covered up with boards, however. Bees prepared in this way will winter every time sure, and come out in the spring strong and healthy. The man who thus takes care of his bees will only know of spring dwindling by what he hears from his less careful neighbors.

I prefer not to winter my bees on sugar syrup, and never burglarize the brood-chamber to do so. I fail to see the advantage or the good policy in doing so. Let the bees, and not the hives, gather the honey, and then the sugar-refiners will not be benefited at the expense of the bee-keeper.

The pollen theory, in connection with the winter problem, has been discussed widely, by our best apiarists, *pro* and *con*, for several years, and the mystery is, so-called, still unsolved. I believe the teachings of Mr. Muth are about correct. If I am not mistaken, his teaching is about as follows:

Pollen is a wholesome nutritious food, and essential to the bee life and health, especially to the larvæ and young bees. Its nutritious and healthy qualities, if kept dry, will last for years, but if allowed to become damp, it will sour. It then swells, bursts out of the cells, and is very unwholesome and unfit for food, for either the young or old bees. The same can be said of honey under similar circumstances, but if it is kept in a warm, dry place, it will keep forever.

Bees in the cluster, when supplied with healthy food, create a large amount of heat, and when the outside air is colder than the air within, the exhalations from their bodies condense and produce considerable dampness which must have a way to escape, or the bees and hives become damp and unhealthy; the combs become moldy, and the pollen and honey sours; the bees become diseased and die. Such food and combs are the fruitful source, and I believe the principal source, of bee-diarrhea. Moldy combs come from damp hives, and damp hives are caused by insufficient ventilation.

And now, when I have reason to believe that the cold weather is over, I place the heaviest combs nearest the cluster, put a division-board on each side, and contract the entrance. The division-board should not touch the bottom, so that the bees can pass for food placed on the opposite side. I contract the brood-chamber in order that the bees can better control the heat during cold snaps in the spring. I then place a frame of honey or a frame of syrup outside the division-board to stimulate brood-rearing. I think it is best that

bees do not begin brood-rearing too soon, because late cold snaps will compel the bees to cluster, and thus expose the brood to death.

A colony should have no more brood between the division-boards than they can well cover. Equalize the colony by taking from every strong colony a frame of brood, and exchanging it for a frame of empty comb from a weak colony. All spreading of brood is an evil, unless the bees can well cover all the brood during the cold nights.

It is proper to remember that in no case will bees from a hive having a virgin queen be accepted by a colony that has a laying queen; nor should a comb with adhering bees from a strong colony be added to a weak colony having a virgin queen, because they would be sure to destroy her at once.

Another precaution is to observe that the queen shall not be on the side of the comb next to where you place the comb with adhering bees, for by so suddenly coming in contact with a strange queen, they would probably destroy her.

This concludes my say in regard to the winter problem, and if my remarks have not been sufficiently plain, I will willingly answer any questions asked, if I can. J. B. CATTERSON.

The foregoing essay was then discussed as follows:

Pres. Russell—You have all heard this excellent essay, which is undoubtedly one of the best ever presented on this subject before this Association; it is now open for questions and remarks.

Dr. Hicks—I have no criticism to offer but to say this—which is to say the least—that I have paid close attention to the essay on the winter problem, and without intending any flattery to him, I will say that I have kept bees for over 50 years, and I have never heard more common-sense, of the very best quality, presented to any society on this subject than I have to-night.

Mr. Muth—I also congratulate our riend on his very nice essay; it is a go d one, indeed. His method is quite different from the way in which I winter my bees. I used to lay strips across the frames, using a blanket or a mat of straw, which forms a good covering, and at the same time absorbs the moisture from below. I close up the hive-entrance to about one inch in the center, and cover the brood-chamber with three boards. The bees easily seal it all around, and make it almost air-tight. On top of these boards I lay a straw mat or blanket, or perhaps both. There is no absorption of the moisture in the hive, but I take care of that by leaving the entrance entirely open, and raise the hive about two inches at the end, and for this reason I know that the exhalations will turn into water, and run down and out from the hive. Sometimes in winter, after the coldest spells, if you raise the hive as I have said, you will be surprised at the amount of water. In this way, the air is admitted, and the bees are kept dry and healthy. It is just as handy, and a little less trouble to cover the brood-chamber up and keep the bees warm, and, to my mind, it is a much simpler way than the way Mr. Catterson speaks of.

Mr. Kitley—Mr. Muth speaks about three boards on top. Do you have the edges so that they form a perfect joint?

Mr. Muth—Yes, I use three boards because I have section boxes, three of which just cover the brood-chamber. The lids to these boxes are what I use.

Pres. Russell—I winter my bees in the same way. Mr. B. F. Bowers, of Augusta, has one of the most successful bee-resorts in Marion county to-day, and he spreads just a cloth over the brood-chamber, and when the cold weather comes, he turns that cloth back half way, leaving this board open (illustrating). By this method he has never yet lost any bees from the cold. He is so successful because he gives them air; he says that they require it.

Mr. Muth—I think that we should keep the bees dry on top, for the simple reason that if the cold air strikes them, it will kill them surely, and why Mr. Bowers puts his covering half way back, is something I cannot comprehend. If there are those who are more successful in opening the boards and allowing the bees air, than those who keep them warm, I should like to see them. Again, I say that the top should be kept warm and dry, and not allowed to become damp, because then both the honey and the pollen will sour. If he wants to keep his bees nicely, then he must keep them dry.

Mr. Catterson—Mr. President, do I understand that Mr. Bowers has no board at all?

Pres. Russell—No, he has never had one, and still has the quilt raised about one-half the way across his frame.

Mr. Muth—He covers the brood-chamber with this muslin quilt?

Pres. Russell—Yes.

Mr. Muth—How long has he been successful?

Pres. Russell—Some 8 or 9 years.

Dr. Hicks—This is truly an artificial

mode of wintering bees, and in direct opposition to the natural tendency and propensity of the bees. Any man that has ever handled bees in the old-fashioned movable-frame knows that the bees will seal it down every time.

FEEDING BEES FOR WINTER.

Pres. Russell—How about Mr. Catterson's method of feeding for the winter?

Mr. Muth—It is the best way of feeding that I ever heard of. This is not intended as a compliment, but as the truth.

Pres. Russell—There seems to be some trouble arising as to the proper feeder to use in the spring. It does not take so much trouble to winter the bees, as it does to get them safely through the spring.

Mr. Muth—If our bees are strong in spring, and if the fruit-trees don't bloom and the bees get no honey from that source, then unless we feed them they will starve to death.

Mr. Catterson—May be what I have said cannot be understood by all. I am opposed to extracting honey from the lower chamber in the fall, and then be compelled to feed up the bees with sugar syrup to take them through the winter. If they had the honey, in my opinion, it is not necessary to give them the granulated sugar in the spring; if it is necessary to give it at all, give it in the fall rather than lose the bees; but if the brood-chamber is old, then no honey should be taken out of it. The bees will store enough honey to winter them. Some of my colonies swarmed the past season just when I did not want them to, and I gave them honey from the other hives.

Pres. Russell—Here seems to be the problem throughout the State, where farmers and many others engaged in bee-keeping do not examine the bees closely enough to see that there is plenty of honey to last until February or March. Three-fourths of the bees die in March, chiefly from want of food. The question is how we can best feed the bees.

Mr. Catterson—Some years ago I used bee-candy, but at present I use the sugar syrup, putting it into the hives, if they have not a good quantity of ripe honey. They would take this sugar syrup and put it in the combs; but if you take the cakes of this candy and lay them in just over the clusters of bees, my experience has been that if they have plenty of honey, they will not bother this candy, but if they are poor, then they will go to work on it.

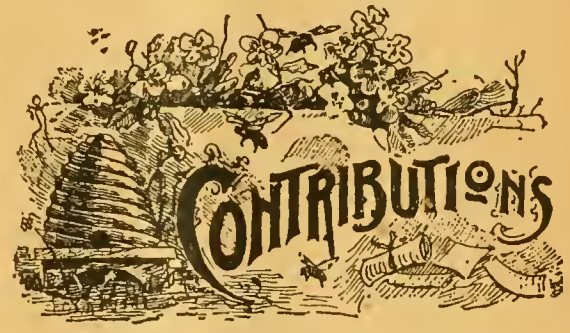
Mr. Simmons—I do not know that I have anything to say that can be of particular benefit. In making chemical analysis of honey, I find that it is composed largely of oxygen and nitrogen as the fundamental constituents. There is an element called "saccharine," which is 240 times sweeter than our ordinary sugar. In feeding my bees I take a little of this saccharine and place it in a quantity of water, and also place with it some loaf-sugar. I find that the bees eat this and appear to fare well, much better than those which were fed on sugar syrup or the stick candy. I like to try all plans and experiments, and if I can find a safe plan, an easy one, and one that is remunerative to me, I try it, and am always perfectly willing to give to my neighbors the benefits of my experiments.

Mr. Pope—I heard two parties say that they fed their bees on this granulated sugar and lost them.

Mr. Simmons—That was doubtless on account of the inorganic substances which it contained, such as lime, chalk, and other things.

The convention then adjourned until 9:30 a.m. the next day.

(Continued next week.)



Keeping Bees Near a Railroad —Queen Cramps, Etc.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

A correspondent wishes to know if it will be a damage to an apiary, if located within ten rods of a railroad. As a rule it should not, yet if the bees are to be wintered in a cellar or under-ground cave, such as I use, the jar from the trains might cause trouble. As I live some eight miles from the railroad, I have little experience along this line, but a friend of mine who lived within six rods of the railroad told me that he believed that very much of his loss during

winter was owing to the disturbance of his bees caused by this railroad.

While there one day, about train time, he invited me to go into his bee-cave, or special underground repository in which he wintered his bees, to see what I thought about the matter. The repository was a nice one, in fact the nicest I ever saw, as the sides and bottom were of a clean white sand, and kept at a uniform temperature of from 42° to 46°. When we went into the cave the bees were very quiet, as much so as they ever are in my own cellar. We struck no light, as he wished me to note the effect of the train on the bees, the same as it would be every time a train passed.

Soon we began to feel a slight jar of the ground, and in a moment more the bees began to buzz, or show signs of being disturbed, which increased as the train neared; and as it went by, the trembling of the earth in this dark place was so great that it was anything but pleasant to me, and I did not wonder that the bees became so awakened that they came to the entrance of their hives to see what the trouble was.

He told me that this disquietude continued from ten to fifteen minutes after the passing of every train, while toward spring they hardly became quiet between the passing of the trains. Fortunately, on this road there were few trains run, still he was never successful in wintering bees in this cellar, and soon moved to a different locality. Since then, I have felt as though I should prefer some other place for cellar-wintering of bees, besides near a railroad.

WORKING-QUALITIES OF BEES.

Another correspondent writes that he thinks that the Italian bees work best on basswood and thistle, and the black bees on raspberry and buckwheat; and asks if I have found such to be the case.

After very close watching of these bees for a long term of years, I have failed to find a single instance where the blacks exceeded the Italians as to honey-gathering, no matter on what plant or tree they were working, while at many times the Italians were actually making a gain when the blacks were consuming their stores. For this reason I discarded the blacks for several years.

Later on I saw an advertisement telling of a large brown bee which would bring in honey when no other bee could; and of an ndustrious gray bee that was away ahead of most of the bees in the country; and not wishing to be behind, I sent for some of these. After a thorough trial of both they only proved, as I had expected, that each was not different from the black bee of our fathers' time.

Next I tried the much-praised hybrids, said to be the coming *Apis Americana*, and I found them not a whit ahead of the hybrids which I had had for years; at least the profits made from the sales of honey from the Italians were ahead of those from any of the others, so I parted company with all the rest.

I know that black bees will store more dark or buckwheat honey than the Italians, but my experience is, that at the same time this is being done, the Italians are storing more white honey from red clover, white-weed and selendine, than the others secure from buckwheat. When this white honey is not obtainable, then the Italians store of dark honey an equal amount with the blacks.

QUEENS CRAMPING.

Another writes, "When clipping my queens' wings some of them go into spasms, or have cramps which double them all up. What is the cause?"

When queens are caught by the wings they often double up and appear to have a cramp, some having reported that death was the result. For a long time I supposed this doubling up was caused by a real cramp, but after a close observation I learned what the trouble was, with my queens, at least.

I caught a queen to clip her wings, when she doubled up as has been described. I thought to let her go as I had always done before when they had thus cramped, but I hesitated as she was very shy and I did not like the thought of hunting for her again, so I concluded to clip her though she died. I lowered my hands very close to the top of the frames, and clipped off all four of the wings as I usually do. She lay on the top-bar of a frame apparently lifeless, so it gave me a good opportunity to examine her closely, when I soon saw that she had one of her front feet tightly clamped in the opening from which the sting extrudes. In a moment more she began to kick about (as the bees hovered around her, so she saw she was in her own home), when the foot was loosed by the opening parting, and she crawled down among the bees unharmed.

Since then I have seen other queens doubled up in this same way, and always found the case the same as above. As the queen is lifted by the wings she struggles to get hold of something, to liberate herself if possible, and in these struggles curves her abdomen and partly thrusts out her sting. While in this

shape one of the front feet catches hold of this apparently secure foothold, upon which the opening is closed from the sensation caused by the foot—holding the foot as in a vise—thus keeping the queen in her doubled-up position as long as the foot is so held.

Borodino, N. Y.

Will of the Queen vs. the Compression Theory, Etc.

Written for the American Bee Journal

BY DR. C. C. MILLER.

Mr. Editor, I see you are determined I shall have no comfort in the columns of the "Old Reliable." There was that woman from Texas, pounding away at me with her "will" theory, and now you have got in a man from Germany that's worse still. I could get along after a fashion with all the Texas woman had to say, for no matter what argument she brought up, I could say, "But in that case the queen is in a different position from what she is in a drone-cell." But Herr Reepen comes out in the *Centralblatt* with the point that the cells of *Apis dorsata* are all alike, whether drones or workers are reared in them, and if the cells are all the same size, how can there be any difference as to mechanical compression? Now you see, no matter how much I might squirm and wriggle out of other arguments, I don't see any possible answer to that. So the compression theory must be given up entirely; but please don't print this in the copy you send to Mrs. Atchley. I don't want her to crow over me.*

AGE OF QUEEN WHEN BEGINNING TO LAY.

I suspect there may be some mistake on the part of the reporter or printer on page 496, where C. F. Muth is made to say, "On the fourth or fifth day after the queen is hatched, she begins to lay." Our genial German friend is too well posted, and careful in his statements, I think, to make such an assertion. Dadant and Alley make five days the shortest time between the birth of a queen and her first bridal-flight, and Dadant says she lays two days later, making seven days the *shortest* time for a queen to begin laying. He makes the average time 8 or 9 days. Root gives 9 days as the average age of commencing to lay. As a rule, I don't look for eggs until a queen is about 12 days old, for although she may commence to lay before that, it takes less time to find eggs when they are plentier, and some queens are slow about commencing to lay.†

QUEEN OR WORKER?

Friend Lindbeck needn't feel humiliated if he should not in all cases be able to tell a worker from a queen. I'm sure I've been so puzzled. Moreover, I've seen workers encircling and caressing a bee that I thought was a worker. But I don't know whether they would follow her if she were held on the hand.

REDUCING BEES 100 PER CENT.

Isn't friend Butts proposing rather too savage a reduction on page 504? He says: "I firmly believe that if the stock of bees could be reduced a hundred per cent. in this section of the country at least, apiarists would be rewarded by more surplus honey, and hence far greater profits." They would hardly get more surplus honey by killing *all* their bees. Or has the "intelligent compositor" been taking liberties with friend Butts' figures?‡

Marengo, Ill.

[*We don't believe Sister Atchley will "crow" one bit. She may, however, "go trotting off, laughing in both sleeves," as she suggested Dr. Miller might do, on page 492. But, then, it would be just like the Doctor to laugh, too — he's so good-natured he just couldn't help it if he should try.

†It must have been the mistake of the reporter, for we printed it exactly as it was written with a typewriter.

‡Mr. Butts likely meant 50 per cent.; but again we can inform the Doctor that we printed it *exactly* as Mr. Butts wrote it. Our "intelligent compositor" *never* takes any "liberties" with anybody's "figures." She (for our excellent and intelligent compositor is a lady) is just waiting for a good chance to get even with the Doctor for such insinuations. When all the women-folks get after him, he'll scatter his "stray straws" worse than ever. If we didn't think so much of the Doctor ourselves, we would certainly be inclined to laugh at his "stray straw" patch predicament—if such should ever materialize!—ED.]

Spreading the Brood Unnecessary and Cruel.

Written for the American Bee Journal

BY L. G. REED.

I am, and have been for many years, a reader of the AMERICAN BEE JOURNAL, and I have read so much about spreading the brood, that I feel constrained to have my say upon the subject. Notwithstanding I break new ground on the long-established views and practices of probably all of the most advanced bee-keepers, yet when a fellow thinks he is right, he has a good right to think he is right as any one else, and it is pretty hard for any one to engage in any pursuit for 20 years without advancing and practicing theories of his own, and this is what I have done in reference to the spreading of brood, to my perfect satisfaction.

I have demonstrated by actual test and experience that it is not only cruel, but absolutely unnecessary to spread brood at all, either in early spring, or any other time; and I have often been surprised that such men as Mr. Doolittle, living in this Northern changeable climate as he does, would practice such a manipulation.

Now, in order to give my plan in full, I shall have to commence by giving my spring management, which is as follows:

The first warm days in March or early spring, when the bees fly, I light the smoker, take an empty hive, and a carpenter's scraper, which is made of a piece of saw plate or blade, I go to hive No. 1, blow a few whiffs of smoke in at the entrance, then proceed to open them up. I take out four or five frames, or enough to give me room to work, and set them in a hive provided for the purpose. I then with the scraper clean that portion of the hive, then place the remaining frames to that side of the hive, and finish cleaning the hive, giving it a thorough scraping out.

I then select such of the frames as have brood and eggs in, and place them to one side of the hive—the sealed brood in the center, the eggs outside. I then give them a couple of frames of honey, placing one on each side of the brood-nest, if they have bees enough to cover this many frames, if not, I give them a less number, or just what they can nearly cover. I then place a division-board at their side, leaving a bee-space at the bottom, so that the bees can go under to get any stores that may be in the remaining frames, which I place on that side of the division-board, scratching with a common table-fork any places containing sealed honey—if there is not too much, if there is, I only scratch a part of it.

I now close them up, leaving off the burlap, and putting on the oil-cloth covers and cushions, and tuck them down snugly to keep them as warm as possible.

I go over the entire apiary and treat all as I have this one, unless there should happen to be a strong, vigorous colony; these I clean and leave all the frames in, placing the brood in the center.

Now as the season advances and they require more frames, on account of having those already in full of brood, I open them up and examine; if they need room, I add a frame each side of the brood-nest; if the center frames are nearly empty of brood and eggs, I place them on the outside of the brood-nest; also, always keeping the sealed brood in the center as much as possible, and the open brood next to the stores. This plan prevents the possibility of chilled brood, and saves the energy of the bees, which is quite an item previous to and during a honey-flow.

Now I want some of our progressive bee-keepers to try this plan, along side of their brood-spreading plan, and if they do not get better results with the same or less labor, then I will go and crawl into a hole, and take the hole in after me.

My plan is no new thing to the bees—they have known of it, and practiced it, when let alone, as long as there have been bees, and I sometimes think they know just a little more about their own business, and attend to it better, than some people; man's cruelty to, and supposed superiority over, the lower animals, to the contrary notwithstanding.

Kent, Ohio.

Against Sealed Covers—The House-Apiary, Etc.

Written for the American Bee Journal

BY B. TAYLOR.

The weather is quite cold here to-day (April 14th). The bees are yet in the cellar. They have wintered in first-class condition. I left some 20 colonies with sealed covers again this winter; they have been more, and are now more, restless than those covered with porous covers. The hives are damp, and un-

satisfactory. I filled one apartment of my cellar, last fall, with 80 colonies, prepared as follows :

Each colony was left in 2 stories of my shallow hive; 2 combs were taken from each hive, leaving the bees on 16 combs, 6x13½ inches. These combs were spread to fill the 10-frame hive, and the bee-space between each set of frames, made a central passage to all parts of the hive. They were covered by spreading a square of cotton-sheeting over each hive. On top of this I put a shallow box, 3 inches deep, the bottom of cotton cloth nailed on; the boxes are large enough for the cloth to rest on the edges of the hive top, and are always sure to be tight. These boxes were filled level full with dry, fine sawdust.

The temperature of the cellar was uniformly very near 42°, and, as to results, these bees have remained quieter; there have less bees flown out on the cellar bottom than I ever knew in my experience of 40 years. The colonies are all alive to-day, and so quiet that I can only hear a very slight murmur.

I prepared some 50 hives by putting some thin strips, one-thirtieth of an inch thick under the board covers. These bees have wintered fairly, but not equal to those first named, as many more bees flew from the hives to the cellar floor.

I have made some inquiry, and find that the bees of neighbors in this part of the country have wintered poorly; those with sealed covers being dead, as a rule, where wintered in out-door packing, and all dead where unprotected.

PLEASED WITH THE HOUSE-APIARY.

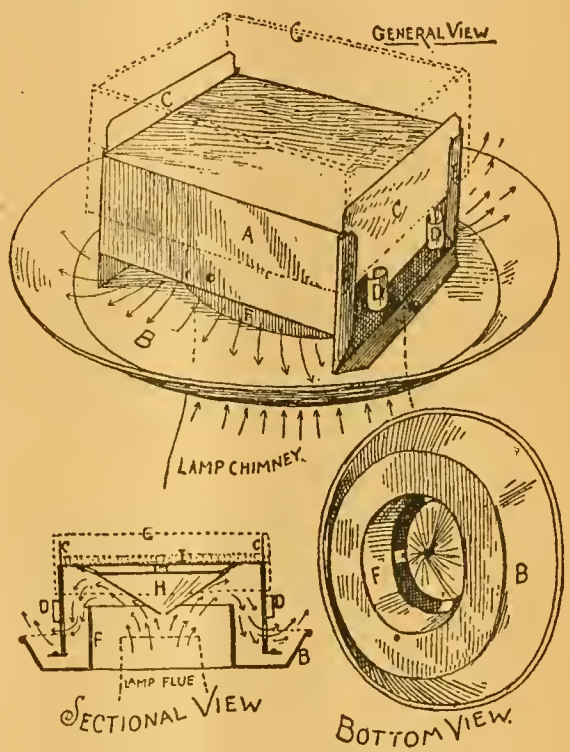
My new house-apiary is just now finished. It is a beauty, of which I feel proud. I find I can accommodate 46 colonies in the 8x16 feet building, without crowding. I had expected to fill it with bees about March 1st, but the very severe weather prevented. I will fill it now when the weather has moderated sufficiently, with bees from the colonies that have wintered so nicely, and shall expect to be able to make a good report for house-apiaries this Columbian year.

I have demonstrated in the past unusually hard winter that bees will winter perfectly in house-apiaries, if properly prepared, as hives in my little, imperfect house came through with bottom-boards as clean as in summer.

THE COMB-LEVELER—A NEW THING.

I send you one of my new machines for preparing sections filled with empty comb for use again. It will be seen by reading *Gleanings* for March 1st, page 207, how such veterans as Manum have despaired of producing salable honey by using these sections of comb again, and have resolved, as many others have done, to melt the combs for wax, and burn the sections.

Now, I regard such empty combs as nearly equal in value to completed sections of honey, to use as "baits" to get the bees into the supers early in the honey-flow, and to be filled rapidly in a short flow in poor years. All my finished honey for the last two seasons was of this kind, and by the use of this little, cheap machine, the honey was equal in appearance to combs built on new foundation.



B. Taylor's Comb-Leveler.

In using the comb-leveler, take a small box with the front left out, to set the lamp in, and cut a circular hole in the top, 7¼ inches in diameter, to set the pan in. The box should be high enough so the lamp chimney will go within ¾ or ½ inch of the tin cone in the round hole in the bottom of the pan. A block can be put under the lamp to make it just right.

Put a little water in the bottom of the pan for the melted wax to run into, and light the lamp. By turning the wick up or down, the right heat can be secured. The heated plate should be hot enough to melt the comb in the section quickly, but not to burn the wax.

Now take a section with comb, and

press upon the heated plate first one side, and then the other. When the comb is full and plump, place the wide side of the section on the stops, but when less full, and you need to melt deeper, turn the narrow part of the section on the stops. Keep an old table-knife to scrape the waste from the top of the hot plate often. The wax will run into the water in the pan below, and may be emptied as required.

Practice these directions carefully, and you will find the combs melted to equal, even surfaces, and left in such condition that the bees will have to add a little new comb to the end of every cell, and the finished honey will be white, and of even weight. Combs thus prepared may be used without separators.

Fillmore Co., Minn.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

In Total Darkness for 167 Days.

Reading the reports from many quarters of "pollen plenty," "balmy April," or "hives filling up with young bees," I am led to ask myself if I have the coldest locality in North America where bees are kept. We have had high winds, cold and snow nearly all the year so far, so that there has been but two or three days suitable for bees to fly. Neither the soft maples nor elm, which give us the first pollen of any account, are open yet, and as the weather has been extremely unfavorable, the bees are in the cellar. They were put in on Nov. 10, 1892, and when I will get them out depends upon the weather. I have been in the cellar to-day, and they appear quiet and nice after their 167 days of total darkness. G. M. DOOLITTLE.

Borodino, N. Y., April 20, 1893.

Appreciated Octogenarian Bee-Man.

The AMERICAN BEE JOURNAL has been a constant weekly visitor since the fall of 1881. I believe *every* copy has come regularly since that time. Such regularity speaks volumes for the helmsmen of our "good ship of bee-lore," who have justly earned the name "Old Reliable" for it. May it live long, and always merit the title, is my wish.

I would like to mention with pleasure seeing the letter from our old friend W. P. Taylor, of Fitzroy Harbor, Ont., the octogenarian subscriber, published on page 344. Although in Manistee, Mich., now, it was at his apiary that I first saw the honey extractor, pound sections, comb foundation, and other great improvements in the pursuit which, when we consider the time (I think about 18 years ago), it would seem as if our friend were taking in every improvement as soon as invented. Being eager to grasp the new and the good, and being a close observer, his store of knowledge must have a wide range. I remember seeing a very neat, concrete, octagonal bee-house for wintering bees in.

Mr. Taylor's experience must be very extensive, and I think we have missed it not to have heard from him occasionally. I know it was a great pleasure to me to visit his place, and although the bee-business was in its infancy with me, I feel safe in saying that Mr. Taylor was one of the pioneer scientific bee-keepers of Ontario. I think he was very modest in putting forth any conclusions, and perhaps this is why we have not heard more from him. I did not write this for publication, but I could not very well see him passing out of our ranks (as he seems about to do) without telling of my acquaintance with him. I am too poor a writer to do him justice, which I very much regret. W. HARMER.

Manistee, Mich.

Mortality of Bees in Winter.

I notice on page 297, that Mr. M. D. Andes is alarmed at the rate his bees carried out their dead during their winter flights. Usually this would be considered a sign that they were in a healthy condition, but if continued at an extreme rate, of course it would result in total annihilation. Not knowing, I could only hint at what might be the possible cause.

He says they have plenty of honey, which shows that they must have been strong, and in good condition during the early fall, and filled their hives to overflowing, and probably crowded their queen out of room to lay, thus cutting off brood-rearing at a very early date, which resulted in the destruction of the drones and consequent idleness of the workers, except to gather enough perhaps to make up for the amount consumed.

Now in this quiet, contented condition, their mortality would be very light, and the colonies would go into winter quarters with plenty of stores, and strong in bees, but mostly old ones. This being their condition during late autumn, their winter mortality, as might be expected, would be great, owing to the extreme age of the majority of the bees; and more especially, if the weather should be warm so as to admit

of continuous flights, for one good flight at that season is more exhausting than several days would be during their early autumn life.

In a warm climate there need be but little fear from loss from winter flights, but in a more Northern latitude the cluster would soon become so reduced that, should the weather change to severe cold, they would chill and die, with plenty of honey within easy reach, or they would dwindle out during the early spring.

It is wrong to allow bees to so crowd their hives with honey as to curtail brood-rearing too early in autumn. Thousands of colonies are lost annually from this one neglect. They should be carefully looked after, and when discovered approaching this condition, remove 1 or 2 rear frames of honey and spread the brood-nest and insert empty combs in the center, so as to allow the queen a place to lay. Then if the blooming season should be suddenly cut short, before this brood has time to mature, feed immediately, so as to maintain the late brood, and make up for what you have taken away. But if the supply of nectar holds out, feeding will be unnecessary.

Leonidas, Mich. D. MILLARD.

Severe Winter in Tennessee.

The past winter was the hardest and most severe in this section of the country since the year 1885. It has been a hard winter on bees. Several people lost 25 to 30 colonies each. I tried to get them to pack their bees last fall, but they would not do so.

I am only 19 years of age. I started with one colony of Italians, and now I have three—one being black. I learn something about bees every day.

The prospects are bright this spring for a good yield of honey. I hope that my bees will do well. Last season was a poor one for bees here. I had to feed mine all through the summer and fall, granulated sugar made into syrup, to keep them alive, and bring them safely through the winter. Last fall I packed them, putting a cushion on each side of them, and one on top, and now they are all O. K., and doing well, under the circumstances.

PORTER FEATHERS.

Whitesburgh, Tenn.

Honey-Producing Trees and Plants.

A BEE JOURNAL correspondent wished to know what to plant to increase the bee-pasturage. A very long list of trees and plants might be given, but a few of the most common and useful, as well as ornamental, might be added to the list given. Among trees, the willow comes first; maple, horse-chestnut and locust; European linden (earlier than basswood); fruit-blossoms of all kinds, currants, gooseberries, raspberries and barberry; honeysuckles, plum-leaved and elm-leaved, are all attractive; clovers of all kinds, grass, wheat, and corn, with pumpkins, as well as buckwheat, are all in their season utilized by the bees.

In the flower-garden the first is the crocus and lilies, small but very easily grown; meadow-sweet, spiderwort, varonica and sweet clover, the last-mentioned to be planted in waste places with catnip and viper's bugloss of the borage family.

Of annual plants, the poppy is the most attractive, eutoca, phacelia congesta, with mignonette all the season.

Bees are yet held by the grip of winter, sometimes down to 15 degrees below zero, without any outside packing, with liberty of flight which they have enjoyed, while I have been closed in with more bees than I know what to do with. B. LOSEE.

Cobourg, Ont., April 2, 1893.

Mr. William Stahl, of Quincy, Ills., the well-known manufacturer of spraying outfits, as advertised in these columns from time to time, has published a number of neat little pamphlets on subjects connected with spraying, among them being "Spraying fruits, how, when, where and why to do it;" "Spraying apple orchards;" "How to prevent and destroy diseases and insects affecting grapes;" "Insects and fungus diseases affecting all varieties of small fruit and vegetable crops;" Full directions for spraying fruits, vegetables and flowers," etc. Any or all of these little books are sent free of charge to any one who will ask for them, and each and every one of them contains much valuable information on the subject treated, and information, too, that should be in hands of every farmer and fruit-grower in the land. Write for them to William Stahl, Quincy, Ills.

Speaking of Family Story Papers, a well-known writer once said that the *Family Ledger* published in Los Angeles, Calif., is, without question, the cheapest and best printed illustrated family weekly in the world. Over 60 complete serials are run in a year's issue. The paper has many copyrighted features, and is illustrated each week. To those who are unacquainted with this remarkable periodical, a special offer is made of 10 weeks for 10 cents. Few that read story papers will allow an opportunity to pass whereby they can secure so unique a paper for such a small sum.

18C3t

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, April 29th, 1893 :

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

CINCINNATI, OHIO.—There is a fair demand for extracted honey at 6@8c. There is no choice comb honey on our market, and prices are nominal at 14@16c. for best white.
Beeswax—Demand good, at 24@27c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Comb honey is well cleaned up. Fancy white is selling at 14@15c. Off grades, 12@13c., and buckwheat, 9@10c. Extracted is dull, and the market well stocked with West India honey, which sells at from 68@75c per gallon. Beeswax, 26@28c.
H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

MINNEAPOLIS, MINN.—The market is good. We quote : Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

ALBANY, N. Y.—Honey market quiet at following prices : White comb, 14@15@16c ; mixed, 12@13c ; dark, 10@11c. Extracted, white, 8@8½c ; mixed, 7@7½c ; dark, 6½@7c.
Beeswax, 26@30c. H. R. W.

Mrs. J. P. Cookenbach, whose advertisement appears on page 517, will be glad to have you write to her to secure a good place to stay during your visit to the World's Fair the coming summer. The BEE JOURNAL refers its readers and friends, with much pleasure, to Mrs. C., who will do the right thing by all who give her an opportunity to help them.

Annual Catalogues or Price-Lists we have received from—

Leininger Bros., Ft. Jennings, O.—Italian Queens.

J. J. Bradner, Marion, Ind.—Bee-Keepers' Supplies.

Jos. E. Shaver, Friedens, Va.—Bee-Keepers' Supplies.

Plinney Shepardson, Catlin, Wash.—Apiarian Supplies.

Wm. H. Bright, Mazeppa, Minn.—Bee-Keepers' Supplies.

E. H. Trumper, Bankers, Mich.—Bee-Keepers' Supplies.

Mrs. J. N. Heater, Columbus, Nebr.—Bee-Keepers' Supplies.

J. Van Deusen & Sons, Sprout Brook, N. Y.—Comb Foundation.

J. H. & A. L. Boyden, Saline, Mich.—Bee-Keepers' Supplies.

Walter S. Pouder, Indianapolis, Ind.—Bee-Keepers' Supplies.

E. J. Scofield, Hanover, Wis.—Strawberry and Raspberry Plants.

S. F. & I. Trego, Swedona, Ill.—5-Banded Golden Italian Queens.

A. E. Manum, Bristol, Vt.—Leather-Colored Italian Bees and Queens.

H. G. Acklin, 1024 Miss. St., St. Paul, Minn.—Bee-Keepers' Supplies.

W. P. Crossman, Ballinger, Tex.—Five-Banded Golden Italian Queens.

C. A. Montague, Archie, Mich.—Bees, Honey, and Bee-Keepers' Supplies.

Edward Gillett, Southwick, Mass.—Wild Flowers, Ferns, Bulbs, Etc.

Mrs. A. A. Simpson, Swarts, Pa.—Italian Bees and Queens, Poultry, Etc.

J. N. Colwick, Norse, Tex.—Italian Bees and Queens, and Aplarian Supplies.

F. C. Morrow, Wallaceburg, Ark.—5-Banded Golden Italian Bees and Queens.

Miller Bros., Bluffton, Mo.—Bees, Queens, Hives, and Bee-Keepers' Supplies.

Theodore Bender, Canton, O.—Bee-Keepers' Supplies, Italian Bees and Queens.

Phœnix Nursery Co., Bloomington, Ills.—Trees, Plants, Shrubs, Roses, Bulbs, etc.

Chas. F. Muth & Son, Cincinnati, O.—Honey, Beeswax, Seeds and Bee-Keepers' Supplies.

W. T. Falconer Mfg. Co., Jamestown, N. Y.—Bee-Hives, Sections and Bee-Keepers' Supplies.

G. K. Hubbard, Ft. Wayne, Ind.—Hubbard Hive, and Section Press, and other Bee-Keepers' Supplies.

Goold, Shapley & Muir Co., Brantford, Ont., Canada.—Bees, Italian Queens, Bee-Keepers' Supplies and Honey.

Your Neighbor Bee-Keeper—have you asked *him* or *her* to subscribe for the BEE JOURNAL ? Only $1.00 will pay for it for a whole year. And, besides, *you* can have Newman's book on "Bees and Honey" as a premium, for sending us two new subscribers. Don't neglect your neighbor ! See page 389.

"Bees and Honey"—see page 549.

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., MAY 11, 1893. NO. 19.

Dr. A. B. Mason, of Auburndale, O., is in Chicago looking after the Ohio honey exhibit at the World's Fair. He called on the BEE JOURNAL, with the same cheering smile that he used to carry along wherever he went, though a loss in avoirdupois has lessened his once plump and somewhat "aldermanic" appearance. But he's the same friendly, jolly, good Dr. Mason, whom all who have ever met want to see as often as possible.

The Foul Brood Articles, promised by Mr. Wm. McEvoy a few weeks ago, are begun on page 594 of this number of the BEE JOURNAL. The first article is devoted to discussion of the *cause* of foul brood. Directions for treating and curing the disease will follow. We hope all that Mr. McEvoy writes upon this subject will be read carefully, as "he speaks as one having authority," after his large experience as Foul Brood Inspector for the Province of Ontario, Canada.

Mr. S. F. Trego, of Swedona, Ills., has purchased his partner's interest in the firm of S. F. & I. Trego, and will assume all responsibility. The management will be the same, as he has practically had entire control of the business the past three years. You will find Mr. Trego's "Fishing" advertisement on another page.

Mrs. L. Harrison has returned from Florida, where she has been spending the winter, to her old home at 821 Hurlburt St., Peoria, Ills. In a letter received from Mrs. H., dated May 2nd, at St. Andrews' Bay, Fla., she says:

Bees have done well this spring in this part of Florida, but are now taking a partial rest until the blooming of the saw-palmetto and other flowers. There is a flower here which is very abundant, and I watched in vain to see bees working on it, and questioned local bee-keepers to ascertain whether it is a bee-plant or not. This plant has a pale yellow tap-root, the leaves are pale green, soft and velvety. The flowers grow on a spike, are of a lavender color, have two wings, a banner and a keel, and in the center of the banner is a dark purple spot. The woods are full of these flowers, and a tourist calls them "lupines." Will some of our readers, who live where this plant grows, tell us more about it?

MRS. L. HARRISON.

International Bee-Convention.—The time for holding the next meeting of the North American Bee-Keepers' Association in Chicago, has finally been agreed upon. October 11th, 12th and 13th are the days selected. We have received the following letter from Secretary Benton, which gives full explanations, etc., and which we trust will be noted by all our readers:

EDITOR AMERICAN BEE JOURNAL:—As there have been but five responses to your suggestions in the editorial columns (page 323) of the BEE JOURNAL for April 6th, regarding the date of the next meeting of the North American Bee-Keepers' Association (one of the five being also in favor of October), I infer that an "overwhelming majority" of the bee-keepers of our land are in favor of holding the convention in October, as originally proposed. The President of the Association first suggested the third week in October, but I think we are now all agreed upon the second week—October

11th, 12th and 13th—which will probably accommodate more than would any other time.

There is promise of a large and interesting meeting, and the presence of many whom we all want to see. Due notice will be given of programme, local arrangements, etc., and the names of famous bee-masters who promise to be present, will be announced. There will be no lack of accommodations at moderate rates, so let every bee-keeper come who possibly can do so. It is an occasion the like of which this generation will not again see.

FRANK BENTON,
Sec'y North Am. Bee-Keepers' Ass'n.
Washington, D. C., April 29, 1892.

We can only second the cordial invitation extended by Mr. Benton, and hope that all who possibly can do so will arrange to attend what promises to be one of the most interesting meetings held in Chicago this century. Let it be a general "swarming time" among bee-keepers themselves, having "selected" a place "in advance," and proper "scouts" will now do their best to find a suitable "hive" in which the "swarm" may bring their "stores" for the benefit of all.

What Bro. Alley Wouldn't Do.—In the May *Apiculturist* Editor Alley tells some of the things that he "wouldn't do," and among them we find the following, that have been crystallized from his over 30 years' experience:

I wouldn't feed in the spring to stimulate brood-rearing. If feeding must be resorted to, let it be to prevent starvation only.

I wouldn't spread combs of brood and place empty ones between before June 10th. It will injure any colony to do such work before the date named.

I wouldn't use a hive that has a brood capacity of over 1,800 cubic inches, or say eight standard Langstroth frames. There are over 50,000 bee-keepers who think as I do on this point.

I wouldn't feed bees rye-meal, wheat-flour, or anything else in the spring. Anything that induces bees to leave their hives when the weather is cool, is wrong, and an injury to the colony.

I wouldn't introduce a new queen for the sake of changing the race of any prosperous colony of bees. Those who do so will be the losers in the end. After the swarming and honey seasons are over, then change queens if necessary.

I wouldn't wait for the honey to be capped before extracting, if I were running an apiary for extracted honey. As soon as the cells are full of nectar, and capping has been commenced at the top of the combs, I would commence to extract. I would put the honey in barrels from which one head had been removed, and there let it remain in a well ventilated room until fall. You can rest assured of the fact that the honey will not ferment, but will be ripened in the very best possible manner. I have tried it, and know what I am talking about.

I wouldn't use a section-case that is non-reversible. When sections are half full, or even quite full, if reversed the bees will attach the combs solidly to all sides of the section. Honey so stored can be shipped a long distance without breaking or leaking.

I wouldn't put sections on a hive no matter how populous the colony, until I could see that the bees are gathering some honey, and had started to build brace-combs between the top-bars of the frames. Then I would put a few sections on, but not over one set of 24 sections at a time.

I wouldn't climb 40 feet into a tree for a swarm of bees when one issues, thus running the risk of breaking my neck. Nor would I permit a swarm to issue before a queen-trap was placed upon the hive. Use the trap, and the necessity for climbing trees for bees is wholly obviated.

I wouldn't stay at home from church on Sunday watching bees, fearing a swarm might issue and decamp. I'd rather use a queen-trap, and thus force the bees to return and issue again when more convenient for me to care for them. No, sir, I don't allow bees to keep me away from church or any other place. I always feel easy when away from home, if queen-traps are on all my hives.

Mr. E. J. Baxter, of Nauvoo, Ills., (who is a son-in-law of our friend Chas. Dadant), called on us last week. Mr. B. reports his 300 colonies of bees as having wintered with a loss of only about 8 per cent. Last year his crop was between 10 and 12 thousand pounds of extracted honey. In 1883, he secured about 10,000 pounds from 41 colonies, one colony alone gathering over 600 pounds. He has never had a total failure of the honey crop, and ships the major portion of his honey to distant markets, always guaranteeing its purity.

Illinois Bee-Keepers have finally succeeded in securing an appropriation of $3,000 from the State, for the purpose of making a honey exhibit at the World's Fair. We doubt not those having the matter in charge, will soon have something to say to the bee-keepers of this State on the subject of an exhibit. Other States are now placing their exhibits, and our grand State must not fall short, though it was very late in getting the necessary funds.

"Bees and Honey"—see page 581.

The "Shake-Out" Function of hives as practiced by the native bee-keepers of Carniola is described thus by Mr. Frank Benton in an article published in *Gleanings* for April 1st:

The hive which, for several centuries, has been most commonly used in Carniola is about 6 inches deep (inside measurement), 36 inches from front to rear, and 12 inches wide, no frames being used. These hives are placed in bee-houses, each tier of hives resting on separate stringers of its own so as to be removable, by sliding out at front or rear, without interfering with the others. There are generally 6 or 8 tiers—often 50 hives in each tier. The rear end of each hive (occasionally the front end instead) is removable for the purpose of feeding, introducing queens, etc., while to get at queen-cells, the bottom is taken off—the latter being commonly fastened by hand-made, wedged-shaped nails that are easily pulled. Frame hives are not popular, the few bee-keepers who have tried them, not having, except in rare instances, understood their advantages. But frames, when used, are mostly shallow—from 6 to 8 inches only in depth, and are placed crosswise of the hives, being removable from the rear end.

There is in Carniola, on the whole, very little manipulation of combs or interference with the interior of the hives beyond the cleaning of the bottom-boards, feeding (which is diligently practiced), and the supplying occasionally of a queen or a queen-cell to a hive that has through accident become queenless.

The native bee-keepers do not often have occasion to hunt out queens; but when they do (most of the hives, as already stated, being without frames), they can only remove the bottom-board and shake out the bees. They do this by main strength, taking hold of the box in the middle, and giving it several violent jerks downward. But as the main cluster of bees (especially in the fall, or in weak colonies, after-swarms, etc., or in such as have stored the rear end of the hive full of honey) is generally in the front end of the hive, I was able to adopt, and to show the native bee-keepers in many places, much to their delight, a far easier way; namely, the plan of holding the back part of the hive between my knees, while I grasped the sides about six inches from the front end and gave two or three quick downward jerks, each followed by a quicker upward motion, thus landing about all—oftentimes *all*—of the bees on the ground. In this way I often captured from these box-hives, and caged in mailing-cages, 30 to 40 queens in two or three hours.

In an editorial under "Shallow brood-chambers and the shake-out function centuries old," Bro. Root comments on the above, written by Mr. Frank Benton, and says:

All of this is exceedingly interesting—the more so as Mr. Heddon has claimed, if we mistake not, that these ideas were entirely new and original with himself. We have seen references to both of these things before, but were not aware that they were ideas that were older than almost anything else use in apiculture. The fact that the shake-out function is, and has been, practiced successfully by the Carniolan bee-keepers, and was also employed by Mr. Benton in making successful catches of queens, goes a long way toward establishing its practicability. By the way, is it not a fact that Carniolans are better adapted to shaking out of a hive than Italians are? The latter don't "shake worth a cent."

General Questions.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Frames Having Pollen in Them.

Where frames have pollen in them, what is the best use they can be put to in the apiary? FRED F. ROCKWELL.
Leonard, Tex.

ANSWER.—Generally, nothing better can be done than to let the bees keep them. Sometimes a comb filled with pollen is as valuable as one filled with honey.

Frames of Honey for New Swarms.

Bees are swarming and doing well. I give to each of my new swarms a frame of honey, and I think it is a good plan. What do you think of it?
F. J. R. DAVENPORT.
Nash, Tex., April 12, 1893.

ANSWER.—Generally a good plan. If a few days of very bad weather should prevent gathering, such a supply would be of great value to a swarm.

Will the Nucleus Swarm?

If I confine a queen on 3 Langstroth frames (like Mrs. Atchley mentioned some time ago), will they swarm, or will they not? Or, if I confine her with queen-excluder zinc, will the bees supersede her when she cannot follow, in case they do swarm? I would like to know how (every detail) it is done. I have a fine queen, and would like to keep her

as long as possible, and if I blunder into something I do not know anything about, I will be sure to "get out in the little end of the horn."

Bishop Hill, Ills. D. LINDBECK.

ANSWER.—Confined on 3 three frames, you may be sure of a swarm whenever the nucleus becomes strong enough, and much sooner than if more combs were given. If excluder zinc prevents the escape of the queen, you may be pretty sure she will be killed.

If you want to keep the queen from laying much, it may be well to try a plan given by Dr. Miller. Set your nucleus on top of one of your regular hives. As soon as you think there is any danger of too many bees, or sooner, remove the nucleus and set it on the top of another hive, thus changing it to a new place each time it becomes strong enough, only allowing it to be left undisturbed long enough toward the last of the season so that it will be strong enough for winter.

Each time you remove the nucleus the field bees will return to the spot from which they were removed, and unite with the bees below.

Bees Leaving in March—Large Hives.

1. Did you ever hear of bees leaving in March? I went out on March 22nd, and noticed a colony of Italians which had always been inactive, just boiling. They would come out, crawl up on the hive, circle around, and then make a liner across the field. I thought they were robbers, so I closed the entrance for one-half hour, then opened it again to see the dead bees, but there were none to be seen. I then opened the full entrance, and went back in three hours—I had a lot of empty combs, bees all gone, and no brood. I could not find even a dead queen, which would have been the case had robbing been going on. Now I think they must have had it all made out, as they did not carry in any pollen, while the other bees were just rolling it in for 2 or 3 weeks before. However, not to be "bluffed," I bought 10 colonies of Italians at an auction for $30, the very next day. The storm blew off the covers, and drenched the outside combs. I took out the wet combs and packed them in burlap. The next day I saw hundreds of bees lying around shaking, shining and black, and very large. I suppose they were bloated. I have not a single colony of blacks or hybrids.

2. Now what was the matter with them? They were hauled 10 miles over rough country roads, in a spring wagon. The hives are 18x30, and 26 inches high. They are the "Crown" pattern, with 18 closed-end frames, 11x12¾.

3. Are not 18 frames too many for one queen? Could I put a division-board in the center, and introduce another queen, thus having 2 colonies in one hive? But I am afraid there will be "scrappin'" going on up in the super. At all events, I will experiment and report my success.

J. C. WALLENMEYER.

Evansville, Ind.

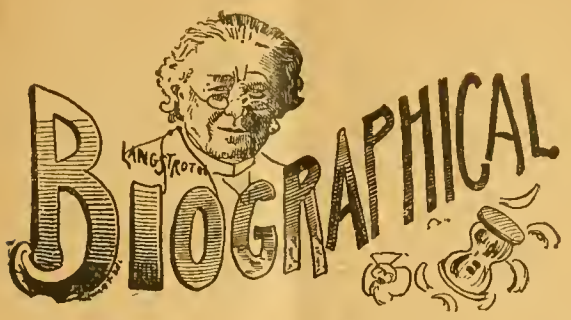
ANSWERS.—1. Yes, bees often leave their hives in March, sometimes a number of hives being deserted at a time. Usually a hive is deserted for want of stores, but sometimes a sort of mania seems to possess them, and a number of colonies will swarm out and mix up, with no apparent excuse for it.

2. Possible the drenching the bees got was enough to account for all. As you describe it, the appearance is much that of the "nameless" disease, only you report as though there had been nothing of the kind before the drenching.

3. Your hives are larger than would be preferred by many, especially for comb honey, but some would say they are none too large for extracting. If you cut in two with a division-board, it will be pretty small. Bees of 2 colonies admitted to the same super have been known to work together quite peaceably.

Bee-Keeping for Profit.—The second edition of Dr. Tinker's new book is now ready to send out. It gives his New Management complete, and three years of added experience in its use by himself and other bee-keepers. Several new illustrations have been added, besides much new matter in regard to the use of perforated zinc. Price, 25 cents, postpaid, or clubbed with the BEE JOURNAL for one year for $1.15.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10



MASTER RALPH BENTON.

Ralph is the youngest regular member of the North American Bee-Keepers' Association, being less than nine years of age, and is also a bee-keeper.

His father, Mr. Frank Benton, the present Secretary of the Association, it will be remembered, accompanied by Mrs. Benton, was engaged for some

RALPH BENTON.

years in the rearing and exporting of queen-bees from different countries in Europe, Asia and Africa. Mr. Benton is a native of Michigan, and Mrs. Benton of Western New York, though for some years previous to her marriage she was, under her maiden name, Hattie M. Wheeler, a teacher in the schools of Ft. Wayne, Ind. It was during their sojourn abroad that Ralph was born, on Aug. 2, 1884, at Munich, Germany. He seems to have inherited a natural love for all things in nature, especially *living* things—birds, plants, animals, and insects. He likes to make a garden and sow seeds, and watch the plants grow; to raise chickens, to gather flowers—particularly wild ones—and to collect insects.

To bees he first introduced himself at the age of two years—a lively colony of imported Palestines, into the hive of which he poked a long stick "to see dem tum out." This enterprise was such a signal of success that he got "the big head" suddenly. Fortunately, this went down long before he had learned to open a nucleus, and hunt out the queen, carry tools about the apiary, etc.

He owns one colony of bees—Carniolans—and at the last meeting of the North American Bee-Keepers' Association it was with money which he earned himself in the apiary that he paid his initiation fee and became a regular member. He regards the wearing of the red and gold badge of the Association, with its big bee, as quite an honor.

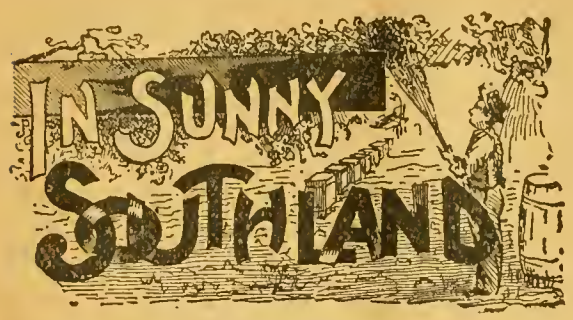
Ralph says he thinks he will always keep bees, and evidently he has his own ideas about some things, as a remark shows which he recently made to his father. They were looking at a hive made with an inner and outer case, and with a lot of slides and buttons on each, when he asked: "Papa, what's the use of so much trick-track about a hive?"

This young American bee-keeper speaks German in addition to English—in fact, he almost has two mother tongues, for he has used them both from infancy. We hope his interest in the pursuit may be of much value to himself and those about him.

Master Ralph has surely shown pluck and intelligence in one undertaking, lately. It seems the *Evening News*, of Washington, D. C., offered prizes of bicycles to all who would procure 100 subscribers to their paper. Ralph was the first to present 100 names, and claim his bicycle—a fine "Cinch, No. 2," whose catalogue price is $35, which he won in less than three days after the offer appeared.

The illustration we present is from the Washington *Evening News* of April 4th, and represents him as he proudly rode away from that office with his new treasure.

Amerikanische Bienenzucht is the name of a bee-book printed in the German language, which we now have for sale. It is a hand-book on bee-keeping, giving the methods in use by the best American and German apiarists. Illustrated; 138 pages; price, postpaid, $1.00. It is just the book for our German bee-keepers. We club it with the BEE JOURNAL for one year, for $1.75.



CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Report of the Texas State Bee-Keepers' Convention.

(Continued from page 560).

FIRST DAY—AFTERNOON SESSION.

Promptly at 2 o'clock the meeting was called to order by Dr. Marshall, President *pro tem*, and all at once the attention of the whole body was called by Mr. Joe Dyer, artist of Greenville, asking the bee-keepers to scatter about through the apiary, as he wished to photograph the entire body of 75 persons, and the apiary consisting of about 400 colonies. This was done, and then he wished the convention to assemble at the convention stand, which they did, and he then photographed them in a group. The pictures are very fine, and every face recognizable, and even the numbers on the bee-hives are readable. The pictures we will try to give to the readers of the AMERICAN BEE JOURNAL soon.

THE SWARMING OF BEES.

Then the swarming subject was resumed and finished, and this question asked, "Is it best to have something convenient for bees to alight on?"

T. E. Miller thought it best to have some trees or shrubery in the apiary for the bees to cluster on.

SELECTING A HOME BEFORE SWARMING.

"Do bees select a home before swarming?"

A. M. Tuttle, J. R. Atchley, Mrs. Jennie Atchley, and C. M. Davis said that bees do not always select a home, as they have been known to swarm and remain settled for two days on the tree, and at other times they have been known to travel one day east, and cluster, then next day go west, showing that they did not always have a home selected

CARNIOLAN BEES.

There were but few present that had any experience with this race of bees. Mrs. Atchley had tried them, and from all her observations they were nothing but a foreign black race of bees, mixed more or less with Italians.

CYPRIAN BEES.

Only three or four present had reared the Cyprians, as they called them, and all gave their experience with them—that they were good honey-gatherers, prolific queens, and great swarmers and cell-builders, but fearful stingers when properly stirred up.

HOLY-LAND BEES.

In the discussion on these bees it was decided that the Holy Lands and Cyprians, or Syrians, were about one and the same thing, only being bred in different countries made a little difference in their characteristics; about the same contrast made between the imported Italian and the homebred.

After all the discussion on the different races of bees, J. R. Atchley said that taking everything into consideration, he thought the Italians superior to any of the races, as they had been tried side by side, and year after year, with the blacks and most other races, and, to be honest, we must give the "blue ribbon" to the Italians.

HIVE-ENTRANCE AND FRAMES.

A question was then asked, "Is there anything gained by having the entrance to the hives parallel with the frames?"

W. T. Pryar's observations were that it did not matter where, or what part of, the hive the bees entered, just so they had entrance sufficient for them to go in and out.

Dr. Howard—I used to use a hive of the slanting pattern, and the bees entered at the side. My observations go to prove that bees unload at the first chance after entering the hive, and it makes no particular difference where the bees enter.

A. M. Tuttle—My observations are that bees that come in unload to the young bees, and they put the honey where wanted, so the bees may enter at any part of the hive with the same results.

C. M. Davis prefers an end entrance, and certainly would not like bees to enter at the sides of the hives.

Dr. Howard—I think we may always get some good comb honey if the bees enter at the side, as the surplus will

most likely be stored farthest from the the entrance.

Dr. Marshall—I prefer bees to enter at the ends of the frames, as then they are enabled to deposit their loads sooner.

REMOVING HONEY FROM THE BROOD-NEST TO THE SECTIONS.

The committee handed in the question, "What is the best plan to get bees to move their honey from the brood-nest to the sections?"

Dr. Marshall—When bees have their brood-nest crowded with honey, put on sections with partly drawn out starters, if you have them, and uncap the honey in the brood-nest, and score the combs pretty hard, and the bees could not well repair the combs without some place to store the honey, and they will usually move the honey to the sections, and repair and clean out the brood-combs, and the queen will fill them with eggs; but we must be sure that we do not get undesirable honey in the sections. I have made considerable money by fooling the bees in that way.

Dr. Howard offered a suggestion, that it was pretty sure to start bees into the sections by causing them to fill themselves with honey, especially if there was a flow of honey, and the colony was strong, and he thinks we are fooling our time away, trying to get weak colonies to store honey in the sections, as it takes powerful colonies to pay in producing such honey.

C. M. Davis—I find it is hard to get bees to finish up or store honey in the sections after horse-mint is gone.

HONEY FROM COTTON.

The difference of opinions on cotton honey, etc., was as follows:

J. F. Teel said that cotton honey is perfectly clear, and of very fine quality. Others agreed with Mr. Teel.

A. M. Tuttle—The best flow of honey I ever saw was from cotton, and the honey is almost as clear as water.

W. R. Graham—Fifteen years ago cotton was not considered any honey-plant worth naming, but now it is *the* honey-plant of North Texas, and the honey is of fine quality, and granulates very quickly.

Several others thought that cotton honey was dark, and of an inferior quality.

WINTERING AND SPRINGING BEES.

The wintering and springing of bees in the South was next considered.

J. R. Atchley thinks that moderate colonies and plenty of stores are best for the South, as the bees will build up and swarm as early as any, and be in just as good condition, or better, for honey gathering, as the larger colonies are liable to use their honey sooner, and be in worse shape than the smaller ones.

W. T. Pryar believes in strong colonies for winter and spring, and all the time.

J. F. Teel keeps his bees in a cool place in winter and spring for best results.

Mrs. Atchley believes in moderately strong colonies, and plenty of honey, as April and the first part of May is the time our bees suffer in this locality—North Texas.

LOCATING AN APIARY.

Another question by the committee was, "What are the most essential points to be considered in locating an apiary?"

J. R. Atchley—A place where flowers bloom incessantly; if possible, close to water. Then, a good apiarist.

Dr. Marshall—A place where honey is known to be plentiful, and water handy, and shade. Have an apiary as convenient as possible. I secured 60,000 pounds of honey in one season by locating in a good place. Much depends upon the location and the apiarist, to make bees pay.

J. F. Teel had his bees on a hill, and thinks an apiary should be located where the high winds, we usually have here in the spring, will not bother the beds.

J. A. Wilson—Bees do not do well in the cross timbers, or where the lands are poor. Bees should be in a place where the lands are rich, as the honey-plants will yield better.

John Robinson keeps his bees near a pool of water, and in a very rich belt of country, and they always do well.

THE YIELD OF HONEY-PLANTS.

"What is the cause of some good honey-plants yielding bountifully in some seasons, and others yielding none?" was asked.

Nearly every one present thought it due to the conditions of the atmosphere. When the weather is warm and balmy, honey seems to be plentiful in almost all honey-producing plants, and when cool and cloudy no honey is secreted.

Dr. Marshall said that in 1860 there was no rain from Feb. 14th to Aug. 14th, and everything produced honey. It would drip from the hickory trees,

and cover everything below. His theory is, that honey-dew is a saccharine matter, oozing from the life or sap of the plants, and in certain seasons, not too wet nor too dry, this saccharine matter is thrown out, as the tree has more sap than is needed. During that year he knew a swarm of bees to take up their abode in a hickory tree, and in the fall he cut the tree and took 412 pounds of good honey; a big story, but true, nevertheless.

At about 4 o'clock a motion was offered and carried, to adjourn until 9 o'clock on the following day. Then the bee-keepers spread all over the premises, like bees in quest of stores, as they had free access to all the apiaries and the house, and to make themselves at home. All except those that lived near by lodged at W. R. Graham's and Mrs. Jennie Atchley's, and every one was well pleased so far, and wore a broad smile, as bee-keepers are the most pleasing people in the world, anyway (so bee-keepers think); and in fact the whole affair seemed to be a reunion of an old family, and the enjoyments just as great.

A great crowd could be seen around Master Willie Atchley, where he was grafting queen-cells, and passersby were attracted, as they thought it was a "monkey show," and all were pleased with what they learned about queen-rearing from Willie, some saying they would not take $100 for what they learned.

(Continued next week.)

Bees Moving Eggs to Rear Queens.

On page 270 Mrs. Atchley controverts the idea that the bees move eggs into queen-cells, and asserts that the queen lays the eggs in the queen-cells just the same as she does in other cells. If Mrs. A. intends to affirm that the bees never move eggs into queen-cells, we will, as the lawyers say, join issue. My experience and observations on different occasions are so decidedly the other way, that I would like to hear more said about it, and will give one instance as an introduction:

Last season I had a colony of black bees that I wished to Italianize, and to do so I caught out the black queen and gave it a queen-cell in a cell-protector. In about three days the cell hatched, and the bees killed the queen. All of the queen-cells in the hive were then cut out, and an Italian queen given the colony. In about four days she was found dead at the entrance of the hive.

I then cut out all of the queen-cells again, and gave them a comb of brood from a black colony. This I placed in the upper story between two combs, just made from foundation, and in which an egg had never been. As soon as queen-cells in this comb were under good headway, I grafted three cells with Italian brood of the proper age, and destroyed the remaining cells on that comb, and looked through the lower story or brood-chamber for cells there to destroy, but found none.

I waited and watched with patience for my grafted cells to hatch, but just at hatching time, to my surprise, I found them all torn down, as if by a queen, and, on an examination, I found that a queen had been hatched from one of the new combs, and not only this, but that a number of other queens had been torn out of their cells from the new comb.

I then found myself, as to this colony, with a black queen, just where I started, but I had learned to a certainty that bees can and do move eggs, not only from cell to cell, but from comb to comb, and rear queens from them.

Sneedville, Tenn. H. F. COLEMAN.

The Marketing of Comb Honey in Paper Cartons.

Query 870.—1. Can enough more be obtained for white comb honey by enclosing the sections in paper cartons, to warrant the extra outlay? 2. Does it require a deeper shipping-case when these cartons are used? If so, how much deeper? 3. In using these cartons, should they be left off the row next to the glass side, for the best results?—N. Y.

Not in my market.—MRS. J. N. HEATER.

I have never tried them.—WILL M. BARNUM.

I have no experience with cartons.—E. FRANCE.

I have had no experience. I doubt if they pay.—A. J. Cook.

In regard to all these questions, I must plead ignorance.—M. Mahin.

1. In some markets. 2 and 3. Some of those New York chaps will tell you.—C. C. Miller.

I do not want so much "fuss and feathers" to sell a pound of honey.—Mrs. L. Harrison.

To all three questions, I will say I don't know, as I never used cartons.—Mrs. Jennie Atchley.

I would use cartons for convenience in handling only. Nice honey looks better than cartons.—A. B. Mason.

1. It depends upon your market. 2. Yes. 3. I would leave it off a section for sample.—J. P. H. Brown.

That depends upon your market. In some places they might pay. I never used enough of them to be any authority.—James A. Green.

1. I think not generally. 2. Yes, enough larger so the cartons will go in without "squeezing." 3. I should think so.—R. L. Taylor.

It all depends upon the class of customers you have. Get a few and try your market, then you will know. I would not advise shipping with the sections in the cartons.—H. D. Cutting.

1. A small percentage of the honey shipped to the New York market sells better in paper cartons. 2. Yes; a quarter of an inch will be sufficient. 3. No; glass one box.—P. H. Elwood.

1. That depends on the market. It would not bring any more here. It is my candid opinion that it will not pay to use them any place. 2. I do not know. 3. Try it and find out.—Emerson T. Abbott.

I have never used them. I doubt if it will pay. A possible exception might be retailing to a few rich people, and then it would seem to me the retailer should enclose a perfect section in a clean carton *at time of sale*.—Eugene Secor.

1. Not in our market. 2. Yes, just enough deeper to make room for the cartons. 3. I use cartons with a round hole in the side next to the honey, covered with mica. This exposes the honey and shows its quality.—J. E. Pond.

1. I couldn't. I don't know practically anything about "cartons" for honey in sections. I have no use for such traps. 2. The crates would have to be made to suit the packages. 3. I don't use them at all.—G. W. Demaree.

1. It does not pay me for the expense and trouble, as I can get no more for it. It might pay to ship to distant markets, as it will ship more safely. 2. If the sides of the case is glassed, the honey next to it should be exposed.—C. H. Dibbern.

The comb honey men of large experience are the ones to answer, but on general principles I should say No. The masses want a good article, and want it cheap, and prefer not to pay for any extra dressing up that adds nothing to the quality.—S. I. Freeborn.

Neither cartons nor glass should be used in putting up sections for the market. Neither helps the sale of honey, and a shipping-case must be used anyway. The bee-keeper will save time and money by putting up his honey neatly but cheaply.—G. L. Tinker.

1. I have never used cartons, but those using them claim they are warranted in so doing, financially. 2. About ⅛ inch deeper, if I am correctly informed. 3. The Betsinger cartons had a small piece of glass in one side on purpose to expose the honey in each section in a tempting way.—G. M. Doolittle.

1. I think in some cases there can. But where the grocery delivery is had, if there is any convenience or benefit the grocer gets it, and should be the one to pay for the cartons. 2. Proportions larger every way, according to how tightly the cartons fit the sections. 3. Part off and part on—then they will begin to investigate, and the result may be a sale for the sake of curiosity.—Jas. A. Stone.

1. Very often it can. I use cartons for all my home trade where my customers have confidence in me, but like to show the honey to strangers. 2. About 3/16 of an inch deeper, also the same wider and longer for each section. 3. This method is satisfactory if you are honest enough to put the same grade of honey in cartons as is exposed.—J. H. Larrabee.

The May *New England Magazine* contains a paper describing the relations of "Phillips Brooks and Harvard University," written by Alexander McKenzie, an old friends of Dr. Brooks. The article is accompanied with illustrations, which show the familiar haunts of Brooks while at Cambridge. A paper on "Milton as an Educator," by Phillips Brooks is also in this number. Published at 231 Columbus Ave., Boston, Mass.

Report of the Indiana State Bee-Keepers' Convention.

Written for the American Bee Journal
BY WALTER S. POUDER.

(Continued from page 563.)

SECOND DAY—MORNING SESSION.

The convention was called to order at 9:30 a.m., with Pres. Russell in the chair.

The first thing was to appoint a committee, consisting of Messrs. Muth, Pope, and Catterson, to wait upon Gov. Matthews, inviting him to visit the convention some time during the morning.

INDIANA WORLD'S FAIR EXHIBIT.

Pres. Russell—The first thing that is before us this morning, is the question of our appropriation for the World's Fair exhibit. I have talked with the Secretary about the matter, and we think it would be a good idea to appoint a committee from this association, to meet with the committees from other State associations, to wait upon the Legislature to get this appropriation. We will have a resolution drawn up, and then appoint this committee at once.

The following resolution was presented by the Secretary, and adopted unanimously:

WHEREAS, The committee duly appointed, and representing the exhibitors of the State of Indiana at the Columbian Exposition will need additional funds to complete the buildings and to make an exhibit there; therefore,

Resolved, That it is the sense of the Indiana Bee-Keepers' Association, now in convention assembled, that the Legislature should make the appropriation asked for by the said committee, and for the purposes above set forth.

The Secretary offered the following, which was also adopted:

Resolved, That a committee be appointed to meet the committees of other organizations, and petition to the Legislature to make the appropriation asked for.

Committee, Dr. J. M. Hicks, E. H. Collins and S. Johnson.

Mr. Catterson—I think we should adopt some method to get this appropriation; but if there was no honey produced last year, I would like to know how we are to make the exhibit there this year.

Mr. Muth—It is quite true that unless we get the honey this season, we can make no exhibit this year at the World's Fair.

INDIANA FAIR PREMIUM LIST.

Pres. Russell—The other matter before us, deferred until to-day, is in regard to the revision of our premium list for the State Fair. I think that the premiums offered to the Indiana bee-keepers are entirely out of all reason, for they are not sufficient to further our interests as bee-keepers. They should be raised to compare favorably with other States, and this would then act as an incentive to bring the honey-producers and bee-keepers out and repay them for their trouble in making an exhibit at the State Fair. We all know what great interest Mrs. Moore, Mr. Pouder, and others have taken in making exhibits there, and in return for their time, trouble and expense, they get ten or fifteen dollars in return as premiums. Is this right? I would now suggest that at least three competent judges be appointed to revise this premium list, and then to award them intelligently at the coming Fair. I would like to hear other opinions on this subject.

Mr. Muth—I think the matter of appointing these judges should be one of great care. We want men who are directly interested in bee-culture, and who will award these premiums in a way that will be satisfactory to all, and a credit to the association.

Here a list showing the amount of premiums offered the Indiana bee-keepers last year was read by Mr. Sylvester Johnson, followed by the reading of a list by the President, showing the amount of premiums, as they should be.

The following resolution was then presented by the Secretary and adopted:

Resolved, That a committee of three be appointed as competent judges to revise the premium list, and award the premiums at the State Fair.

Dr. Hicks—I am in favor of appointing three judges on this committee, and that the premiums should be awarded by a majority of that committee. This,

I believe, is the custom in other States. It is not to be supposed, however, that these men will be exhibitors at the State Fair.

A motion was made by Mr. Pouder that a committee of three competent judges be appointed to revise the premium list, and present it to the Board of Agriculture, that it may compare favorably with other States. The motion was carried, and the following were appointed: Sylvester Johnson, Dr. J. M. Hicks, and E. H. Collins.

A short intermission was taken for the payment of dues, the enrollment of new members, and for recreation from the perplexing questions.

Pres. Russell—We will now proceed with our regular programme, which is an essay by Mr. Chas. F. Muth, on

How to Prevent Swarming to Produce the Best Results, and How to Make a Proper Use of the Queen-Excluder.

It appears to me that a full crop of honey cannot be harvested except when we prevent our bees from swarming, because we know that it is the old bees that are the honey-gatherers, and not the young ones. We know, also, that a swarm is usually the old bees, and when they leave the hive, for nearly a week, or perhaps ten days, no honey-gathering is done at all. We know that when the queen has plenty of chances to deposit her eggs, and plenty of room, she does not get the swarming fever, and she is always the very last one to leave the hive.

For many years I have prevented my bees from swarming, and have been producing principally extracted honey. How to prevent swarming at the honey season is taught us by our friend G. W. Demaree, of Kentucky. I heard his method at the last bee-keepers' convention, and it struck me as a good thing, and I gave it a thorough trial.

Our honey season here begins about the first of June, because then the white clover commences to yield. I at this time take all the combs from the brood-chamber containing brood and honey, and put them into another box and fill the brood-chamber with empty combs, thus the brood-chamber contains a comb, with a queen, some of the bees, and the empty combs. After this is done, the queen-excluder is put on. Put the upper story on, and then cover the hive. If you are in favor of producing comb honey, you can put sections on that queen-excluder.

In the course of a few hours you will see that most of the old bees are down with the queen. You will let them go that way, as the bees hatch and the queen has plenty of bees to assist her in rearing brood, and as the young bees hatch, they go down.

Last year was a very poor one for honey, as I suppose we all know, still I produced some nice comb honey, besides 600 to 700 pounds of extracted honey. I think the queen-excluder is the most applicable thing to prevent swarming. One objection I find, however, and that is that I found a lot of drones upon raising the honey-boxes, that could not get out of the queen-excluder; but you can brush these off, and it makes no difference whatever. After a while, when you are ready, you take the hive off, and you have no idea of the benefit to the bees. You can put the bee-escape on and the honey-boxes on top. I have had about 20, and put in 10 bee-escapes in this manner (illustrating), set the honey-boxes on top, and the next day I commenced to extract. It is a very easy way, and scarcely any trouble at all.

CHAS. F. MUTH.

The entrance of Governor Matthews at this time interrupted further discussion. Mr. Muth made a short address of welcome, as follows:

We have taken the liberty of calling on you to meet with us a little while this morning, not with the intention of having you address us as bee-keepers only, but we desire your aid in putting us on a level with other Associations of the State. Bee-culture is an important branch, and we want this branch of industry protected, and although you may not be thoroughly posted in bee-culture, we feel sure that you will lend us your kind aid and co-operation, and would be glad to have you address us on this subject.

Gov. Matthews then responded in the following words:

Mr. Chairman and Gentlemen of the Convention:—

I think the gentleman who has just spoken has said truly when he suggested that perhaps I was not thoroughly posted in the matter of bee-culture; but I regard it as one branch properly belonging to that of agriculture, and I can safely say that everything pertaining to it even in the slightest degree will have my cordial and hearty support. I think, considering the magnitude of this industry, it has never been thoroughly apprehended. It *is* an important indus-

try, and it needs encouragement as well as any other department of agriculture. While I am not, as you might say scientifically posted upon the subject of bees, nor made them a particular study, yet I have always found them to be very interesting. They were interesting to me from the time when I first learned that couplet,

> How doth the little busy bee,
> Improve each shining hour?
> It gathers honey every day
> From every opening flower;

and it was held up to me as an example, especially when I was inclined to drowsiness in the afternoon sun.

I always found it very interesting, too, when a boy, to run after the bumble bees, and as they alighted on the hollyhocks, close the flowers up and hold them prisoners; and then again, they were always interesting when we used to discover bees'-nests in the fall, or when putting up hay. Aside from all this, it is a subject that has demanded the attention of some of our best men, and it is becoming more and more interesting to those who study into the ways and habits of the busy bees, for it brings them into closer contact with nature, and the closer to nature a man is, the better man he is.

I will say this in conclusion, gentlemen, that in your industry, I am heartily with you. I do not believe that you have met with the encouragement that you should, and that you deserve. I will co-operate with you and lend you all the assistance in my power to see that this department reaches the prominence that it deserves. I am very glad to have had this short talk with you, and have had the pleasure of meeting with you.

Mr. Pope—We should like to have a little assistance about making an exhibit at the World's Fair, and also to have the Commissioners of the World's Fair grant us an appropriation, in order that we can make an exhibit there that will be a credit to our State.

Gov. Matthews—Yes, I quite agree with you, and think this is the time that you should put your best foot forward, I am inclined to think that the Board of Commissioners has slighted this whole department. I do not think they are giving the agricultural department, or the live stock department, the attention that it deserves. There has not been any specific appropriation set aside yet, although I have urged that this be done. If you will allow me to suggest, I think it would be wise for you to confer with the Executive Commissioner, and have him go before them and make a statement of your plans, the amount you think you should have for this, and to impress upon them the necessity of setting aside a proper amount for the exhibition of your industry. I believe that it would be well to appoint a committee at once.

Dr. Hicks—I move that we give the Governor a vote of thanks for his remarks in our behalf and interest. We shall look to him in his official capacity in connection with our pursuits, and see that we get our best deserts in future operations at our State exhibits.

Mr. Wilson—I am also in favor of giving the Governor a vote of thanks for his kind remarks and promises of hearty co-operation with us.

A vote of thanks was accordingly extended to the Governor.

[Concluded next week.]

The Real Cause of Foul Brood Among Bees.

Written for the American Bee Journal

BY WM. M'EVOY.

Have the scientists been of any value to bee-keepers on foul brood? I must, for the public good, answer this question with a most positive *No*, and declare that they have not been of any benefit, but often their opinions, when heeded, have done great damage. And now I go in for ruling out the whole lock, stock and barrel of scientists, and Mr. Larrabee along with them. When the bee-keepers have failed to agree on some things about foul brood, and got the scientists to help to solve the problem so as to settle, if possible, all disputes for all time to come, it has only ended in greater confusion than ever, because the scientists have not only disputed the discoveries of practical bee-keepers, but they have actually contra-

dicted each other. What is such evidence worth?

I have discovered the real cause of foul brood, and *from experimental testing of my own* I discovered the simplest and most practical way, with the least work, of curing that disease; and I have had more experience with foul brood than any other man on earth.

In the AMERICAN BEE JOURNAL of Feb. 16th, page 215, I see that Mr. Larrabee doesn't agree with me on anything. All right; he has a perfect right to his opinions, but I must remind him that mere guess-work or opinions like his won't count against discoveries.

I will now give you evidence that would count in any court of law, and that any judge on the bench would accept, and charge a jury to believe, as they are solid facts. The following is part of the evidence which no Mr. Larrabee on earth can get over, and is enough "dictum," I should think, to convince any man; but if he wants more, I shall give him plenty more along the same line:

One fine day in April, 1875, when my bees were flying freely, the bees of one colony all came out, and about two-thirds of them got into another before I got the hive closed. I then took the remaining third of the bees and the queen, and returned them to their own hive.

Then about sundown, when the bees had settled for the day, I examined the colony that swarmed out and lost two-thirds of its bees, I found plenty of honey, a nice lot of brood in all stages, but *too small a cluster of bees to cover or care for the amount of brood.* That colony having lost the most of its bees, the uncared-for brood died and rotted in the cells. Then by the middle of June that colony had developed into a geuine case of pure foul brood, which gave me many a day's very bitter experience before I got rid of it.

In the summer of 1882, Mr. C. J. Robinson, of Richfield, N. Y., originated foul brood in his own apiary, by forcing brood to consume their food mixed with rotten larvæ. Mr. Robinson had some combs with brood in that were taken out of the hives at extracting time, and were not returned to the hives through mistake. The weather being warm at the time, and the combs of brood being piled on top of each other in a building, the brood heated and soon became very rotten. Mr. Robinson then went to a colony of bees, took out a comb of brood, brushed the bees off, and then put the matter from the rotten combs into the cells that had brood in, and to force the brood to consume it he put a screen on each side of the comb, and then put it back into the hive of bees again. The comb of brood was kept warm by the heat of the colony, and the screen kept the bees from feeding the brood. Then the larvæ was forced to consume the rotten matter, and then it became foul brood.

In 1888, the Rev. Mr. Gructzner, of New Dundee, Ont., had foul brood originate in his apiary. In a letter I received from him, Mr. Gruetzner says:

"In the spring I placed entirely healthy combs of brood from other colonies into a weak but healthy colony; very soon the young brood died, intense heat set in, and the whole colony became full of foul brood. In Germany the opinion seems to be universal that deceased brood is the cause of foul brood."

In June, 1889, Mr. Wm. Burkholder, of Otterville, Ont., had foul brood originate in his apiary, from starved brood. Mr. Burkholder had a very strong colony of well-bred Italians, which consumed all their honey just a little before the honey season opened, and which he found in a dying state one morning. He fed them at once, and the majority of the bees came out all right again. All the brood in the colony had died at that time from starvation, and rotted in the combs. Then warm weather set in, and the whole colony became full of pure foul brood.

In June, 1890, Mr. Charles Urlocker, of Thorold, Ont., had 30 colonies of bees turned into foul brood from drowned brood. In June, 1890, Mr. Urlocker had 40 good colonies with a top story on each hive, and a queen-excluder on every brood-chamber. Just then a sudden storm started up, and a big cloud bursted over Thorold, and for a time caused a terrible flood. Mr. Urlocker's apiary was in low land, the water rose very rapidly, and soon 10 brood-chambers were under water, and as the queens could not get up through the queen-excluders, they were drowned, as well as the brood. The water did not get quite up to the tops of the brood-chambers of the other 30 colonies, so the queens did not drown in them. The bees in nearly all went up into the top stories at the time. These colonies were very strong, and some had swarmed before that, and were full of brood when the flood overflowed the apiary. The water soon went down, extreme heat set in, and the brood-chambers full of drowned brood went into a great mass of corruption, and turned Mr. Urlocker's

apiary into foul brood with a vengeance. In the Foul Brood Bulletin, page 14, Mr. D. A. Jones, of Beeton, Ont., says:

"A man once had a hundred colonies in an isolated locality, with no other apiary within miles of it, and no bees in the woods, as far as known; there were no signs of foul brood in his apiary all summer, though the colonies were carefully examined once or twice each week. In August or September, a flood came and drowned a large portion of the brood in some of the hives; 10 or 15 of them were so much injured by the flood that the bees did not remove the dead brood, and in most of these colonies nearly all the combs were full of brood. The weather, after the flood, was very warm and muggy, the atmosphere very oppressive for days, with frequent showers. All the colonies from which the dead brood were removed came out all right, while the 10 or 15 from which it was not removed became very badly diseased; they attempted to rear brood, but some of it was affected, so much so that the odor arising from the brood dying was very unpleasant. When all the dead brood was removed, the disease continued, and it appeared that the spores of the disease were in the honey, as many of the larvæ were found dead. Each time brood was reared the disease continued to increase, in spite of salicylic acid and other treatments then in vogue. Honey from the combs when given to a healthy colony produced the disease. It appeared in every respect like foul brood, and I feel satisfied that it was. Now, if it did not emanate from the decaying brood, which was a mass of corruption, where *did* it come from?"

Mr. John F. Gates, of Ovid, Erie Co., Pa., U. S., had foul brood originate in his apiary from his bees dwindling so badly one very backward spring that the bees could not cover or care for and keep warm the brood they had started during the early warm spell. When weather came in earnest, Mr. Gates examined his colonies and discovered that the rotting of the uncared-for brood had developed into foul brood.

Foul brood is a disease that is caused by the rotting of uncared-for brood. It usually originates in spring in weak colonies that have spring-dwindled so badly that they have not bees enough left to cover or care for all the brood, and if the spring keeps raw and backward the bees will crowd together to keep each other warm, leaving the uncared-for brood to die and rot in the cells. The brood covered by the bees in time hatches, which so increases the force of the colony that a wider circle of comb is covered by the bees taking in the space occupied by the decaying brood. Then the brood that is fed in these cells where brood lately rotted down, will have to consume their food mixed with the remains of decayed brood, and that is the *whole, sole, real, and only cause* of foul brood.

In the bee-yards of beginners, overworked farmers, and business men (whose time was fully occupied in other things) is where I found many a foul brood nursery. When brood has rotted and advanced to the brown-rotten-matter stage it is then a very dangerous thing, and if a large quantity of that is put in a weak colony *it will start foul brood at once.* The so-called scientists have done a terrible lot of damage by saying that the rotting of uncared-for brood could not cause foul brood; that sort of teaching has caused bee-keepers to be very careless, and when foul brood has broken out in their apiaries, it makes rapid headway because the owners did not take proper care of their colonies, but depended too much upon the so-called scientists who are not practical bee-keepers.

In the summer of 1890 Mr. John F. Gates wrote up the cause of foul brood, and had it published in the *Canadian Bee Journal.* When I read it I was greatly pleased to see that Mr. Gates had discovered in his own apiary that foul brood was caused by the rotting of uncared-for brood. I wrote Mr. Gates a letter at the time, thanking him very much for his valuable article on the cause of foul brood. He is just right on both the cause and cure of foul brood, and it will be a good thing for all bee-keepers, that have foul brood in their bee-yards, if they will follow his instructions how to cure that disease, and let the professional guessers carefully alone until they find out.

In the fall of 1890, I was very much pleased with an article that Mr. C. J. Robinson, of Richfield, N. Y., had published in the AMERICAN BEE JOURNAL, on the cause of foul brood, and as that was a real test case of his, proving that foul brood was caused by the rotting of uncared-for brood, I prized his article very much, as that was in the same line of my discovery. I wrote Mr. Robinson at the time I read his article, and also thanked him for it.

Some bee-keepers believe that the empty hives that had foul brood in, will cause foul brood if not boiled, scalded, or disinfected, which is the greatest of

nonsense. An empty hive never, no never, gave the disease, and never will. I always tell the owners not to waste their time in disinfecting or doing anything with the old hive, but cure the disease right in the same hive, which they always do.

Some think that the queens in very badly diseased colonies will cause foul brood, which I know is anything but a fact. I often have to put two, three, and sometimes four weak colonies into one, that have been so used up from foul brood, in order to get a fair colony to make it pay to cure them of foul brood. In such cases, if the queens suit me, I get them for nothing, and bring them home and do away with some poor queens, putting these queens from the foul colonies into my own. I have proved it in every possible way, and I know for a fact that the queens never did cause foul brood.

Comb foundation has been blamed for helping to spread foul brood, which is not a fact. I defy any man to cause foul brood from foundation made from wax rendered out of the *worst* of *foul broody combs.* The disease is spread by the bees robbing foul broody colonies, and they carry the disease just in proportion to the amount of the diseased honey they convey to their own hives.

In my next article I will give all my methods of curing foul brood. I don't use any drugs, nor starve any bees at any time, and any man can cure the worst cases of foul brood by my methods, from May to November. I am getting many letters on this business all the time, and hope that my articles in the AMERICAN BEE JOURNAL will serve as an answer to many of them.

Woodburn, Ont., April 24, 1893.

In-Breeding of Bees—Colonies in Good Condition.

Written for the American Bee Journal

BY C. THEILMANN.

The question asked Mrs. Atchley, on page 461, is in short answered by Mrs. A. that she don't know, while at the same time she knows of 30 colonies kept in box-hives, 10 miles from any other bees, and all started from one colony, at least 15 years ago, and which are still in the best of health and prosperous condition. Should not this be evidence sufficient that "line" breeding does not, with bees at least, degenerate them in any wise?

Mrs. Atchley says that she does know that in-breeding makes a vast difference in the animal creation, and that retrograding begins just as soon as in-breeding starts; she doubts whether this holds good with bees. This view coincides with my own. I would only ask further, can bees really breed in? What, in reality, is in-breeding? If I understand in-breeding correctly, it is the copulation or connection direct by parents and children—any other breeding would be what is called "line breeding." If I am wrong in this, then I would like to be set right; but if I am correct, then I would further say that when God created the honey-bee, he put a stop to the in-breeding part, as you all know, by subduing every drone in the act of copulation with the queen, and by the construction of the queen so that she is fertilized for her whole life by the one connection; this prevents in-breeding entirely by the bees.

Line breeding is claimed, by our most experienced breeders of domestic animals, as not only detrimental, but beneficial, if judicially done.

Whether the human race has made progress or retrograded in this respect since Cain had to take his sister to wife, is beyond my apprehension. I would not be afraid of my bees degrading if left entirely to themselves, but I know I have better bees now, for every purpose, than I would have had if I had let them have their own way for the past 20 years, and this was done by selecting and breeding from the best.

I put my 300 colonies of bees out from the 5th to the 10th of April. All were alive except one colony; but three of them swarmed out the same day when put out. They have lost more bees in the cellar than usual, also considerable honey in some of the hives is candied. Some of them are rather weak. The others are in fair to good condition.

On April 10th soft maple was in full bloom, and my bees brought in pollen in less than one hour after being put out. Since then the weather has been cold (20° above on the 15th), wet and cloudy. To-day, at 1 p.m., we have over one foot of snow, and it is still snowing hard, with 31° above zero. It is a sight, seeing a foot of snow on top of my bee-hives, and the trees loaded heavily with the snow, instead of blossoms. No cleaning out, or anything else could have been done safely with the bees since the 10th, on account of the cold, raw air we have had.

There has been but very little seeding

done here as yet; the land is too wet, and there is no prospect now for a week or ten days.

Theilmanton, Minn., April 20, 1893.

Bees in Virginia—Experience in Wintering Bees.

Written for the American Bee Journal

BY CHESTER BELDING.

Perhaps a little "buzzing" from this part of the Sunny South will be read with interest. We are here for the mild winters, our home being in Orange county, N. Y., where we have kept bees for the past 30 years. There are quite a number of bees kept in this locality, but as far as we can hear they are entirely without profit, for want of any special honey harvest. They subsist year after year as the winters are so mild, and usually swarm frequently, seemingly getting just about honey enough to keep them breeding, and make them self-sustaining; and what honey they do get is very poor in quality, and often unpleasant to taste. I noticed bees gathering pollen here some two weeks ago.

At my home in New York I left, last November, 53 colonies, part in chaff hives, part with outside cases packed between with leaves, and part in single-walled hives. Friends inform me that they had a flight on Feb. 20th, also on March 12th; and a bee-keeper near by there tells me his bees are seemingly wintering well.

When I first commenced bee-keeping I wintered them in cellars, but I was unable to do it satisfactorily; some would get uneasy and die, others would come out with moldy combs, some would get the diarrhea, and succumbed to the first cold snap after being put out in the spring; and then some old farmer near by, who left his bees out on the summer stands all winter, in box hives, with their bottoms up an inch or more for the air to circulate under, would have earlier swarms than I could possibly get; therefore, I discarded cellar quarters, as it was more work, and I consider bees much more safely wintered, and breed up earlier in the spring when wintered out-of-doors.

For the last two winters the percentage of loss was less in the hives without any outside protection than in chaff or packed hives, and we are not as particular to confine the bees to just what combs they will occupy or cover, but often give one swarm two hives, one top of the other, and place the brood and store combs about half and half in each hive, then put a dummy board on each side, and fill with leaves, if you choose. We think this narrow and high winter quarters is a good thing, and insures warmth and dryness to the cluster during the winter confinement. We doubt not that others have success with bee-cellars, and where they have such long, cold winters they may be desirable.

Claremont, Va., March 18, 1893.

Wintry Weather — Using Methods of Others, Etc.

Written for the American Bee Journal

BY S. B. SMITH.

Bee-keepers in this part of the country supposed that spring had come, and carried their bees from the cellars to the summer stands the last week in March and the first of April. I carried mine out April 3rd. Yesterday it snowed all day, and to-day we are having a real winter blizzard. As I look out of the the window I cannot see 20 rods. There is over one foot of snow now, and it is still snowing. This will seem rather chilly to our Southern friends who may chance to read this.

Farmers have a large amount of wheat sown, but this storm will cause them to suspend operations for a few days. It is not very cold (30° above zero) so I think it will not injure the bees.

We have had a long, cold, hard winter, but I have not heard of any very serious loss among bee-keepers. I think that every bee-keeper ought to take some bee-paper (I think the BEE JOURNAL one of the best), as the ideas and suggestions are a great help to all of us, whether old in the business or beginners.

I have learned that in order to make a success in the bee-business it is necessary to adopt some one of the many methods of our best apiarists. One man makes a success extracting honey, another with one-pound sections. In this vicinity comb honey sells better than extracted, therefore the apiarist should work for comb honey.

In large apiaries different kinds of hives may be used to advantage, but in small apiaries such as farmers have, it is better to have one kind, and then the brood-frames will fit any hive, and this is a great advantage if we wish to strengthen a weak colony with brood-comb or honey. Some men succeed by

dividing colonies; I can do better to let them swarm naturally; so in whatever method a man can succeed best, let him stick to that. It is necessary to have system in bee-keeping, the same as in all other occupations, in order to succeed.

Mr. Chas. White, on page 471, tells how to catch swarms of bees. When I read it I was inclined to laugh at it, as being somewhat whimsical, like the old mullen-stalk for catchers, which I tried years ago without success; but after thinking the matter over, I concluded as there is a scarcity of trees here for bees to cluster on, I would try Mr. White's plan this season, and if I am successful I will report through the BEE JOURNAL, and thank Mr. White for giving the information.

Keeville, Minn., Apr. 20, 1893.

P. S.—The storm still continues. This is the third day—April 21st. School closed to-day on account of the blizzard.

THE LAND OF DZIERZON

CONDUCTED BY

H. REEPEN,

OLDENBURG, GROSSHERZOGTHUM, GERMANY.

The Queen is a Hermaphrodite.

Mr. Metzger published another surprising statement. He says:

There is no parthenogenesis, as the queen is a hermaphrodite. Those cells without nucleus referred to in our report on page 330, which are to be found in the seminal vesicle of the queen, have the destination to *fecundate* the *drone-eggs*. Some of these cells will always be found on the surface of drone-eggs. They are too thin to be detected with the microscope; if wanted to be seen they have first to be washed off. Therefore, *all* eggs are fecundated. If the receptaculum seminis could be castrated, a queen could lay deaf or sterile eggs only, from which neither drones nor worker-bees could develop.

Mr. C. J. Robinson is partly companion of Mr. Metzger, when saying, "It is the sum of ignorance, that a queen can receive into her 'sac' sufficient spermatic fluid for six or more years." But we recommend the book by Cowan, "The Honey-Bee," to this gentleman, in order to know what is meant by parthenogenesis *now-a-days*. The definition given by him in the AMERICAN BEE JOURNAL is "the sum of ignorance."

If Metzger is right, we cannot speak any more of parthenogenesis, but I am deadly sure he is not right, as a kind of castration of the "sac" has already been made by Dr. Donhoff (1851–54) and by Cowan, and the fecundated queen could lay *drone-eggs* only after this. This proves that Metzger is wrong.

Is Honey-Dew Aphidian Honey, or a Secretion of the Leaves?

Dzierzon says: Honey-dew is nothing but a product of the aphis; but nearly all other bee-masters in Germany pretend it is *sometimes* only a secretion of the tree-lice, and sometimes an exudation or perspiration of the leaves.

Rain of Honey-Dew.

There was simply a rain of honey-dew last season in the Black Forests and in the Vosges Mountains. *One* prime swarm of Mr. Veirling, of Hiederhaslach, gave the following results:

June	16,	30	pounds	of honey-dew.
July	7,	53	"	" "
"	23,	47	"	" "
"	28,	32	"	" "
Aug.	5,	52	"	" "
"	12,	46	"	" "
"	18,	40	"	" "
"	25,	45	"	" "

Total, 345 pounds.

Mating of a Queen.

Dr. C. C. Miller, in his incomparable "Stray Straws," took notice of three cases of fecundations of the queen in the hive as reported in the German *Centralblatt*. These three cases are only observations (?) without scientific value.

The general belief is, that the fecundation takes place *high* up in the air, but during the last season some three or four cases have been reported, showing that copulation will take place *close to the hive;* even when bees are swarming, the young queen will be fecundated amidst the swarm.

I am the happy owner of a couple which was found in the bee-yard when a colony had just cast a second swarm. As the swarm was going back to the

hive, the bee-keeper looked out for the queen, and found her on the ground some 25 yards off from the hive, in this position :

I hope to be able to show this couple *in natura*, to visitors of the World's Fair, as I have been selected as a delegate to the Columbian Exposition for the Kingdom of Prussia. H. REEPEN.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

The First Swarm on May 1st.

My "Italians," in dovetailed hives, with an outside winter-case for protection, wintered nicely, and are now in splendid condition. Black bees in box-hives did not fare so well—many died of cold and starvation. I received my first swarm to-day—May 1st—and it was a "dandy." As I was fortunate in having the queen's wings clipped, they were hived without any trouble. Who can report an earlier swarm in the same latitude? All my colonies show indications of swarming early. The BEE JOURNAL is my most welcome *weekly* visitor. L. POSEY.

Torch, Ohio, May 1, 1893.

Bees Starved with Plenty of Honey.

I will give a short account as to how our bees have wintered in this locality. All are not yet taken out of the ground, but those that were left on the summer stands without an extra amount of protection are nearly all dead. Some that were wintered in good chaff hives are in good condition. Those wintered in cellars are all right, with a very small loss. But taking it all around, there has been an unusually big loss of bees the past winter, some claiming that they froze to death, but I think they nearly all starved, although some of them died with 20 or 30 pounds of honey in the hive. It is very easily explained. On Dec. 7th we had a very heavy snow-storm here, and then it set in cold, and scarcely thawed on the south side of a house for nearly six weeks, so it did not get warm enough for the bees to move their cluster, and when they had eaten the honey that they were clustered on, they could not move out to get any more, and starved with plenty of honey within two inches of them. A great many late swarms did not have enough to carry them through. JOSEPH BEESON.

Casey, Iowa, April 1, 1893.

Wintering Bees Upstairs, Etc.

I was born and lived in Ohio until grown up, when I came to where I now live, 27 years ago. I have tried bee-keeping a good many times by cellar wintering, and lost nearly all I had every year with mold. Four years ago I thought I would try putting them upstairs in a darkened room; since I have kept them upstairs I have not lost any that I put in with enough stores of honey to keep them through the winter. They always come out dry and in good condition. I put in 22 colonies last fall. I use the frame hives. I did not get a very large yield of honey last year, as the spring was a very late one here. I think all the bees left out here the past winter have died.

Goodell, Iowa, Mar. 25. M. L. WILES.

Hard Winter on Bees.

It has been a very hard winter on bees here; 75 per cent. of the bees have died; some have lost all they had. I have 10 colonies that I have kept for the last two years, thanks to the BEE JOURNAL. I took 100 pounds of honey from them last fall, and I sold it all for 20 cents a pound, and could have sold a good deal more if I had had it, and at same price. D. R. CALEF.

De Kalb, Mo., April 17, 1893.

Experiences of an Aged Bee-Keeper.

I am 76 years old, but I have not lost my interest in bees. I have kept them for 40 years, off and on, in box-hives. Moths would get in, ants would trouble them; cold, long winters, with frost in the hives, would kill them, and sometimes I would get run out of bees, and then go without a few years; then I would commence again on a small scale. Five years ago I had 4 colonies in box-hives. I covered them over with boards on the summer stands in November, and closed the entrance with wire screen. On April 1st I examined them, and found them all dead. The hives were full of frost, and the water dripping out of the entrance—suffocated.

One year ago I had another run of the bee-fever, and bought 3 colonies of Carniolans in Langstroth hives. I waited for them to swarm until the middle of July, but they swarmed not. Then I made 3 more by dividing, taking 4 frames from each of the

old colonies, and putting them into the new hives, and filling them all up with empty frames. That gave me 6, all about equal; 4 of them worked about as usual, 2 of them never showed their heads for a week—perhaps they had no queen, and I had no experience in finding one, so I let them shift for themselves, then they went to work all right. On Thanksgiving day I put them all into the cellar.

My cellar is cemented, and has a furnace in it. I put them into the coldest part, where it ranged 40 to 45 degrees above zero, and they were as still as mice all winter. On March 26th, it being warm, 50 degrees above zero, I carried them out to their old stands, and gave them a flight. They had a fine time, and so did I. I put on my new veil, and whilst they were out I took the frames from the first one and put them into an empty hive adjoining, and cleaned out the dead, and scraped it clean, then put them back again, putting the cloths on top, then the covers. I served them all the same way. They never offered to fight. They have plenty of honey, a clean hive, no moths—why, they were so glad over their clean quarters and flight, that they would buzz with their wings in front of the hive entrance. Give me the cellar for wintering bees. GEORGE RACKLEFF.

Woodford, Me., March 30, 1893.

Bees and the Weather.

Bees are all O. K.—what are left. I have lost 10 colonies out of 15. It snowed here the 14th 3 inches deep.

JOHN V. EMMERT.

Lebanon, Ind., April 17, 1893.

Bees Wintered Nicely.

Bees have come through the winter nicely in this locality, nearly all being wintered on the summer stands. On April 3rd my bees were bringing in pollen in abundance, but to-day we have six inches of snow. However, it will all be gone to-morrow, and the birds will be singing as sweetly as ever. I am pleased with the AMERICAN BEE JOURNAL. M. BEAUPRE.

Forestville, Ont., April 15, 1893.

Bees in Poor Condition.

Last year was a poor year with us. I got only about 200 pounds of comb honey from 21 colonies. There was too much rain the forepart of the season. Bees went into winter quarters in good condition. I put them into the cellar on Nov. 15th, and took them out on April 3rd. Every colony was alive, but they had the diarrhea badly. I think I will lose ⅓ of them. On March 1st I examined them, but found no signs of disease then, but they were confined too long 4½ months in the cellar—without a flight. It will not do, I don't care how good their stores are, I don't believe they will stand it.

I am going to move them six miles on a wagon in a few days, to a better location. They will have more fruit-bloom and white clover, and quite a good deal of Alsike and basswood. I hope and pray that we may have a better season this summer. I shall have to manage the bees all alone now. One year ago last fall my two youngest boys died—all the help I had; now we are left alone. It is hard to bear, but the Lord's will, not mine, be done.

L. REED.

Reed City, Mich., April 9, 1893.

Lost Only 3 Colonies.

I took my bees out of the cellar last Tuesday, and lost only 3 out of 23 colonies in wintering. B. M. SAVAGE.

Independence, Iowa, April 11, 1893.

Dealing Direct with Producers.

I am especially pleased with the position of the BEE JOURNAL on the adulteration of honey. We California bee-keepers feel that our business is very much injured by commission men in our State, who use glucose in abundance in the adulteration of extracted honey, and then ship it East as California white-sage honey. If Eastern dealers desiring California honey would deal directly with the producer, I think it would do very much to offset the sales of adulterated honey from this State by commission men. They might learn who we are by correspondence with our State Secretary, Mr. J. H. Martin, of Riverside, who, I believe, was authorized to give us some assistance on the question of selling our honey. ALLEN BARNETT.

Whittier, Calif.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

May 18, 19.—South Texas, at Wharton, Tex.
T. H. Mullin, Sec., Eagle Lake, Tex.

May 19.—Lambton, at Sarnia, Ont.
J. R. Kitchin, Sec., Weidmann, Ont.

May 25.—Capital, at Springfield, Ills.
C. E. Yocom, Sec., Sherman, Ills.

Oct. 11, 12, 13.—North American (International), at Chicago, Ills.
Frank Benton, Sec., Washington, D. C.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Honey & Beeswax Market Quotations.

The followlng Quotatlons are for Saturday, May 6th, 1893:

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

CINCINNATI, OHIO.—There is a fair demand for extracted honey at 6@8c. There is no choice comb honey on our market, and prices are nominal at 14@16c. for best white.
Beeswax—Demand good, at 24@27c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Comb honey is well cleaned up. Fancy white is selling at 14@15c. Off grades, 12@13c., and buckwheat, 9@10c. Extracted is dull, and the market well stocked with West India honey, which sells at from 68@75c per gallon. Beeswax, 26@28c.
H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

MINNEAPOLIS, MINN.—The market is good. We quote: Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

ALBANY, N. Y.—Honey market quiet at following prices: White comb, 14@15@16c; mixed, 12@13c; dark, 10@11c. Extracted, white, 8@8½c; mixed, 7@7½c; dark, 6½@7c.
Beeswax, 26@30c. H. R. W.

Mrs. J. P. Cookenbach, whose advertisement appears on page 579, will be glad to have you write to her to secure a good place to stay during your visit to the World's Fair the coming summer. The BEE JOURNAL refers its readers and friends, with much pleasure, to Mrs. C., who will do the right thing by all who give her an opportunity to help them.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.
F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.
SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.
J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.
HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.
H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.
CHAS. DADANT & SON.

Cincinnati, Ohio.
C. F. MUTH & SON, cor. Freeman & Central avs.

Bee-Keeping for Profit.—We have just issued a revised and enlarged edition of Dr. Tinker's book, called "Bee-Keeping for Profit." It details his most excellent "new system, or how to get the largest yields of comb and extracted honey." The book contains 80 pages in all, and is illustrated. Price, postpaid, 25 cents, or clubbed with the BEE JOURNAL for one year, for $1.15.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

TO EXCHANGE—High Grade Safety Bicycle, for Honey or Wax.
17Atf J. A. GREEN, Ottawa, Ill.

TO EXCHANGE—Good 6-inch Vandervort Fdn. Mill, for wax, honey, or offers.
J. H. & A. L. BOYDEN,
18A4t Saline, Mich.

WANTED—To exchange, Extractor, Eight or Ten Frame Hives, Barnes' Saw, for Bicycle, Beeswax, Houey or offers.
19A1 O. H. HYATT, Shenandoah, Iowa.

WANTED—To exchange, Warranted Italian Queens for a few strong Colonies of Bees. Write at once to J. F. WOOD,
19A1t North Prescott, Mass

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., MAY 18, 1893. NO. 20.

A Terrible Rain-Storm swept over Greenville, Tex., where Mrs. Atchley lives, and so blew her queen-rearing yards about as to result in considerable damage. If her customers, who may read this, are delayed several days in receiving queens, they will now understand the cause of it. About 500 fine cells were destroyed, besides much other loss. There was also great damage to property in the city of Greenville.

The Illinois Honey Exhibit at the World's Fair ought to be a good one. The amount of the appropriation for that purpose is $3,500 instead of $3,000 as announced last week.

Mr. J. M. Hambaugh and Mr. J. A. Stone, respectively President and Secretary of the Illinois State Bee-Keepers' Association, were in Chicago last week to see about space for the exhibit at the Fair. The BEE JOURNAL was favored with a call from these brethren, and they expressed the hope that the bee-keepers of this State would help to make the honey exhibit in every way what it should be.

All who have honey to exhibit, or expect to have later on, are urgently requested to correspond *at once* with Jas. A. Stone, of Bradfordton, Ills., or J. M. Hambaugh, of Spring, Ills., either of whom will be glad to furnish you with all necessary information.

Not Sure About Sugar Honey.—The following is one of Bro. Root's editorial items in *Gleanings* for May 1st, and with the last paragraph we agree *most fully*:

Since we shut down on the sugar-honey question in our columns, we have been asked by adherents on both sides to renew the discussion, more particularly as some of the other journals were keeping it alive in their columns. We do not wish to indicate any policy for another paper, but we hardly think it wise for *us* to open the discussion *for the present*. If the production of sugar-honey is unwise, as we firmly believe it is, the best way to kill it is to say nothing about it. To vigorously oppose it is, in a certain sense, to keep it alive. The thing that we have to regret is, that it should have been discussed as much as it has in our columns, particularly as more extensive experiments should have been made, and a better knowledge of the product secured; for even Prof. Cook, in a card just received, says:

"*I am not sure* that sugar-honey is what I think it is; that, of course, is to be settled."

How much better to have "settled it" before saying anything about it, and so incurring great risk as to the consequences!

The Bee-Keepers' Review for May came right "on time" this month—May 10th. Bro. Hutchinson has a most beautiful and valuable number for May, having added eight extra pages. He says:

I have always rather prided myself on the small size of the *Review*. I have felt that it should be small but *good*.

Bro. H., we don't think any one will object if you continue to keep it "good" and also *large*, instead of "small." It is only another proof of Bro. Root's statement, viz.: "Apicultural journalism was never on a higher plane than now, both in quality and quantity."

"Apicultural Journalism," says Bro. Root in *Gleanings* for May 1st, "was never on a higher plane than now, both in quality and quantity." That is saying a good deal, but we know of no one who is better prepared to make the statement than Bro. Root. It speaks volumes for those who are writing for the various bee-periodicals, and now if we shall only be able to say the same of the honey crop this year, all will be well. Perhaps one of the causes of the improved "apicultural journalism" of to-day, is the poor seasons of the past few years. Now, if the yield of honey will only catch up with the advanced apiarian journalistic efforts, the publishers will all be ready to take another big stride forward. We are ready for both the large crop, and the big stride to follow it!

Texas and its Resources will be written up by Mrs. Atchley, to follow the report of the Texas State Convention, which is now being published in her department of the BEE JOURNAL. She is receiving many questions regarding Texas, and she will take this way to answer them.

Farm, Field and Fireside, published here in Chicago, at $1.00 a year, is one of the most progressive and wide-awake agricultural periodicals published to-day. It has been issuing specially artistic and attractive numbers the past few months, and the "World's Fair Edition," issued for Saturday, May 6th, is particularly fine, and contains pictures of all the buildings at the Fair Grounds. We can club the *Farm, Field and Fireside* with the BEE JOURNAL for one year, for $1.75.

Prevention of Swarming is a subject that has received much attention at the hands of bee-keepers with an inventive turn of mind. The latest, and, we believe, the most promising of beneficial results is the device invented by Mr. H. P. Langdon, of New York, which Mr. Frank Benton describes and illustrates on pages 627 to 630 of this number of the BEE JOURNAL.

Mr. Benton thinks that Mr. Langdon has made "one of the most valuable additions to the list of apiarian inventions that had appeared for a long time—one that, after the frame hive, would rank equal with or ahead of the honey-extractor or comb-foundation machine."

In the May *Review*, Bro. Hutchinson says: "The fundamental principle of shifting the bees from one hive to another is one that I believe will eventually settle the swarming problem."

It will pay you to read very carefully all of Mr. Benton's article, and thus become familiar with this great advance movement in modern progressive bee-keeping.

The Progressive Bee-Keeper for May came out with a bright and clean new "face," made up of flowers and scenes characteristic of bee-culture. It was designed and engraved by the Murray-Heiss Engraving Co., of Cleveland, O., who are making quite a reputation for artistic work in the line of bee-keeping. The Leahy Mfg. Co., the new publishers of the *Progressive Bee-Keeper*, are making progress very rapidly with their paper. Again the BEE JOURNAL wishes them success.

Mr. J. P. Huckabay, who attended the Texas bee-convention at the home of Mrs. Atchley, handed her 25 cents toward helping to pay her for reporting the proceedings of the meeting, and thinks that it was a mistake not to have voted to Mrs. A., at the meeting, something to pay her for her work in their behalf. If all those who attended would send Mrs. Atchley whatever they feel would be their share, we are sure it will be well invested, for Mrs. A. is a very busy woman, and is doing a grand work for bee-keeping in the South, as well as laboring in the interest of the pursuit everywhere.

Propolis as Smoker Fuel.—Mr. A. E. Manum, in a recent number of *Gleanings*, says that Mr. J. E. Crane first told him about burning propolis in his bee-smoker. Sprinkling it over the fuel in the smoker-barrel is one way to use it. Mr. Manum says:

> I never tried anything that would just *drive* the bees out of the way as nicely as this will. I think it would be a good plan to melt up a lot of propolis and dip pieces of wood into it, and keep them handy by, to be used whenever the bees are troublesome, for it will quiet them in a moment.

Great Premium on page 613!

Anti-Adulteration Laws are being enacted by various States that are conscientious enough to care for the morals and health of their inhabitants. This is right, and a National law upon the subject will soon follow these State enactments.

An Act to prevent the adulteration of honey was introduced into the Pennsylvania State Legislature in March, a copy of which is given below, which was sent to us by Mr. G. W. Bell, of Bell's Landing, Pa.:

SECTION 1.—Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same, That it shall be unlawful for any person or persons to adulterate honey by mixing with it any sweets of whatsoever kind not gathered from flowers or blooms, or to mix together any such sweets whether with or without honey or cause it to be done by any agency whatsoever, and to offer for sale, or sell without labeling it with the true name of its component parts with the proportion of each, and with the name and location of the manufacturer.

SEC. 2.—Any person or persons convicted of a violation of any of the provisions of Sec. 1st of this Act shall be deemed by the court guilty of misdemeanor, and shall be fined in any sum not less than one hundred dollars ($100), and not more than five hundred dollars ($500), one-half of said fine to go to the informer, and the other half to the school fund.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Some Questions on Queen-Rearing.

1. What is the best way to rear queens?

2. How long does it take a capped queen-cell to hatch?

3. Do all queen-cells that have been capped contain live queens?

4. Would bees cap cells that had no eggs or larvæ? S. M. KIMSEY.

Tesnatee, Ga.

ANSWERS.—1. It might be somewhat presumptuous to pretend to say what was the *best* way, and in any case there is hardly room to give here a full answer to such a question. Most of the text-books give instructions for rearing queens, and Doolittle's "Scientific Queen-Rearing" is an exhaustive treatise on the subject, being a book of more than 160 pages. We can send you one for $1.00, postpaid.

2. A queen hatches in about a week after the cell is sealed.

3. No; dead queens are often found in queen-cells, having died after the cells were capped.

4. No; but it is no unusual thing to find an empty cell that seems to be regularly sealed. The explanation is that after the queen hatches out she leaves the cap attached by a little hinge, the cap returns to its old place after the queen emerges, and the bees fasten it more or less together. It looks just a little as if they were trying to play a practical joke on the bee-keeper.

Moving Bees a Short Distance.

I have 11 colonies of bees on the summer stands. Can I move them 50 feet without loss?

Bees did nothing last year in this county, but we look for a fine flow this year from white clover. There has been too much wind and rain this week for bees to work. C. J. BENCE.

Grand View, Ind., April 22, 1893.

ANSWER.—There is some danger, but if all are moved from the old spot there may be little or no loss. Clean up the old spot, or change its looks in some way, and then set up a board or piece of glass in front of each entrance. Possibly, if a hive, when moved, is shut up and then drummed on, the bees might mark the new location when the hive is opened. They might mark you, too, if you don't get out of the way when the hive is opened, but if drummed enough they feel quite subdued.

When and How to Transfer Bees.

Please tell me through the BEE JOURNAL how to transfer bees, and when is the best time for transferring out of box-hives into frame hives.

Bellevue, Del. W. R. WOOD.

ANSWER.—In time of fruit-bloom, is the stereotyped answer. Earlier than that there would be danger from robbing, as the operation of transferring is likely to cause some demoralization, leaving the bees in rather poor condition to defend themselves against robbers When honey is yielding well, there is

little danger from robbers, if the operator is careful not to have a lot of dauby combs exposed.

The less honey in the combs the better for transferring, and at the time of fruit-bloom the supply on hand gets its lowest.

Later the combs are fuller; if not with honey, at least with brood. The earlier transferring also gives a chance for the bees to get in good condition for harvest, although the transferring may not materially interfere.

"Driving" Bees Explained.

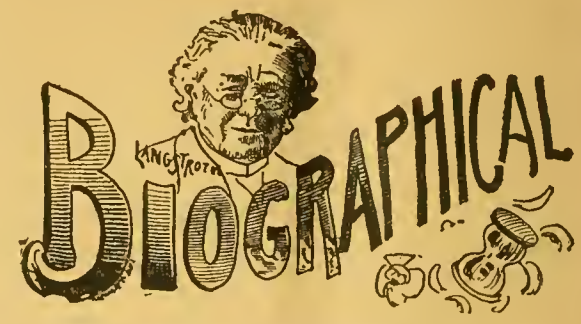
In the answer to Elmer Bridenstine's question, on page 489, what is meant by "drive," and how is it done? How are the bees united with the former "drive?" SUBSCRIBER.

ANSWER.—If an empty hive or box is placed over an inverted box-hive containing a colony, all openings for the escape of the bees being fastened up, and the sides of the box-hive be continuously pounded or drummed on for some time, the bees will commence traveling up into the upper hive or box, and if the drumming be continued long enough, nearly all the bees will go up. Such an operation is called "driving" or "drumming." "The former drive" means the bees driven out at the former time of driving.

Amerikanische Bienenzucht is the name of a bee-book printed in the German language, which we now have for sale. It is a hand-book on bee-keeping, giving the methods in use by the best American and German apiarists. Illustrated; 138 pages; price, postpaid, $1.00. It is just the book for our German bee-keepers. We club it with the BEE JOURNAL for one year, for $1.75.

Alley's Queen-Rearing book, or "Thirty Years Among the Bees," gives the result of over a quarter-century's experience in rearing queen-bees, and describing the practical, every-day work. By Henry Alley. It contains an "Appendix," showing the improvements made in queen-rearing the last four years. Very latest work of the kind. Nearly 100 pages, with illustrations. Price, postpaid, 50 cents; or clubbed with BEE JOURNAL one year, for $1.30.

"Bees and Honey"—see page 613.



MR. ALLEN PRINGLE.

The subject of this sketch and illustration, Mr. Allen Pringle, of Selby, Ont., is Superintendent of the Ontario Apiarian Department at the World's Fair at Chicago. He was born 52 years ago, on April 1, 1841, in Lennox County, where he now resides. A portion of the following sketch is from the *Canadian Bee Journal*, and the balance has been written by a friend of Mr. Pringle's:

At the age of ten, young Pringle might have been seen on a wood sleigh one fine morning in April, accompanying his father to a neighboring house three miles off to get their first "skep" of bees. The colony was in what is now called "the old box-hive," and they got it home in good condition on the sled. Thus commenced the young lad's experience in bee-keeping.

Up to the age of fifteen he attended the local school in winter and assisted with the bees and farm work in summer. By that time he had acquired all the learning the average country school pedagogue could impart, besides quite a fund of antiquated bee-lore. He now began to think of doing something for himself on his own account. Accordingly one morning in May, bright and early, the self-reliant and ambitious youth started off on foot and alone to a neighboring town several miles away to attend an examination of candidates for teachers' certificates. He was successful, and duly received his certificate of qualification to teach any common school in the county.

Soon after, at the age of fifteen, he took a situation as teacher without assistant, and there ended his own schooling with the exception of a subsequent term or two in a high school. His education has been acquired for the most part outside of schools and colleges. For several years the winters were spent

teaching the "young idea how to shoot," in some of the largest and most difficult schools to manage in the whole county, and with every success; while the summers were mostly spent on the farm and amongst the bees, which, under skillful management, had increased from the original old box-hive to over half a hundred prosperous colonies.

Having readily absorbed the bee-lore possessed by all the wiseacres of the neighborhood, and hearing that a great book had been published on bees, he sent for it and got it in due course by mail. It was Quinby's "Mysteries of Bee-Keeping Explained." From this he got new hints and valuable information, and rapidly came to the front in the science and art of bee-culture as practiced in those days. He discarded the box-hive and used a movable frame, from which he extracted the honey with an old-fashioned extractor, getting the nearest blacksmith to make him an uncapping knife from an old file, which he still uses, and which, during a quarter of a century, has shaved the caps off many tons of honey.

Through a strong love of bees and a natural adaptation to the handling and management of them, supplemented by a long experience, Mr. Pringle has become one of the most skillful apiarists in America, and is looked to as an authority on bee-culture by all who know him. Though never seeking office, the office seeks him, and he has served as President and Director of the Ontario Bee-Keepers' Association for several years, doing the Association important service while its President.

Mr. Pringle is a worker in the fullest sense of that term—working with both hands and head with equal facillty and effectiveness. He can turn his hand to many things, and his head and pen to many subjects. He is known as a clear, cogent and forcible writer, not only in the daily press but the monthly magazines. Prof. Cavanagh, the expert phrenologist of Toronto, in a published work, speaks of Mr. Pringle as "one of the ablest writers in America." His style is clear, critical and logical, and the man who enters the controversial arena with him may make up his mind beforehand to come out with a demoralized quill and with his feathers flying. In the field of polemics Mr. Pringle carries the heaviest kind of guns. He is one of the few

ALLEN PRINGLE.

men who are thoroughly practical and utilitarian as well as theoretical and philosophical.

He makes his bee-culture and farming pay in dollars and cents; handles his large apiary alone, doing all the work; puts up and markets his honey, works on his farm, and finds time (at night) to write for bee-papers, agricultural journals, magazines and newspapers, besides conducting a large correspondence including in it some of the most eminent literateurs and scientists of the day.

Mr. Pringle is held in high esteem by all who know him as a man whose word is his bond, and whose honor and moral life are above reproach. Of his appointment (unsolicited on his part) to his present position at the World's Fair, the *Canadian Bee Journal* said it will "meet with general approval and give very general satisfaction."

CONVENTION DIRECTORY.

Time and place of meeting.

1893.
May 25.—Capital, at Springfield, Ills.
C. E. Yocom, Sec., Sherman, Ills.

Oct. 11, 12, 13.—North American (International), at Chicago, Ills.
Frank Benton, Sec., Washington, D. C.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

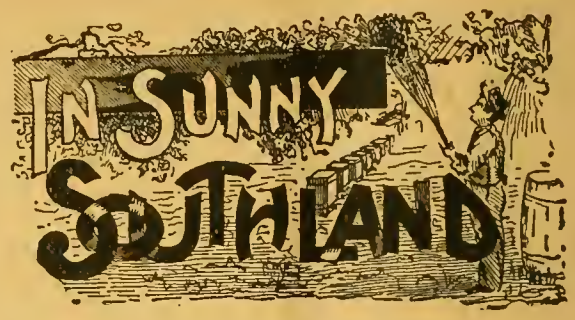
North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

"**A Modern Bee-Farm** and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.70.



CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Report of the Texas State Bee-Keepers' Convention.

(Continued from page 590).

The following was omitted by mistake from the report of the first day's proceedings:

HIVING OF SWARMS.

Dr. Marshall stated that the labor of hiving was lessened by having objects, such as large knots of trees, or something that resembled a swarm of bees, and when the bees once settled on an object, the rest were likely to cluster on the same object.

Mr. A. M. Tuttle asked, "Which is best to hive swarms on, combs or starters?" J. A. Meeks uses combs, and one after another arose and gave their preference to fully built out combs to anything, as if we have our houses all ready furnished, it is much better for us than if we move into them empty.

THE VARIETY OF BEES.

This came up as a general question. Dr. Howard puts blacks and Italians on an equal footing as mechanics, except the blacks capped their honey whiter than Italians.

Dr. Marshall thought we had better Italian bees in America now than they had in Italy, as the Italian bees had been bred and improved upon by our shrewd American apiarists until he would take American Italians first.

Now we are ready to begin the report of the

SECOND DAY—MORNING SESSION.

The convention was called to order at 9 o'clock a.m., with Vice-President Dr. W. K. Marshall in the chair, President Wm. R. Graham doing the honors as host.

The question-box was opened, and the following discussed :

COMB OR EXTRACTED HONEY ?

"Which is the more profitable, comb or extracted honey ?"

Dr. Marshall—That depends largely upon the honey market.

C. J. Cutler—I find no difficulty in selling comb honey at 20 cents per pound.

J. D. Givens, of Lisbon—I sell extracted honey at my door at 10 cents per pound. Comb honey, at Dallas and Oak Cliff, readily sells at 15 to 20 cents. I can produce twice as much extracted honey. I grade my comb honey; when the sections are full one pound it is classed grade No. 1, when they fall two ounces short, grade No. 2, and when more than two ounces short, grade No. 3.

A. M. Tuttle, of Gainesville—Almost every one in Gainesville wants comb honey; the country around buys more extracted. I can produce more than double the quantity in extracted honey. I sell extracted for 10 cents, and comb honey for from 12½ to 15 cents per pound.

George Wilson, of McKinney—I produce extracted honey exclusively, and find ready sale at 10 cents per pound.

J. F. Teel—I produce both kinds, can get more extracted than comb honey, but I get the best price for comb honey. The profit will depend largely upon market demand.

BEST MANAGEMENT FOR PRODUCING HONEY.

The next question discussed was the following :

"What is the most practical method of management of the apiary, for the production of honey—both extracted and comb ?"

Dr. Howard, of Fort Worth—Build up the colonies, and have them strong and ready for the honey-flow. I would never take from strong colonies to build up weak ones, as we might lose the working strength of more than one colony, at a time when the production of honey would be worth more than the production of bees. When I had bees I worked for extracted honey exclusively, except in one small yard of about two dozen colonies of black bees, away from home, which was worked for comb honey. By always having plenty of extra combs I never failed in getting the full benefit of the honey harvest. By extracting all the honey in the yard the last of July, the fall honey-flow was devoted to the production of combs, and as mentioned in my essay of yesterday, the pungent honey gathered in the fall was utilized in breeding up in the spring. To induce bees to commence in the boxes, a good way when the brood-chamber is full of honey, is to drive the bees into the boxes by smoking them, which causes them to fill themselves before entering the supers; this done at night they will commence the work of comb-building in the sections to deposit the honey they carried with them from the brood-chamber. I have never produced comb honey to any great extent, and cannot say what proportion of profit might obtain in the production of comb or extracted honey, but I believe that I can produce 3 or 4 times as much extracted honey.

J. R. Atchley, of Arlington—I believe in caging the queen during a heavy honey-flow, unless it should be a gradual flow. If our colonies are strong, by caging the queen we stop the production of bees, and turn the whole force to the production of honey, and no time is taken up in rearing young bees, and no honey is wasted in the nourishment of them, which is an item worthy our consideration.

J. S. Robinson, of Greenville—I believe in taking the honey from the upper story exclusively.

C. M. Davis, of Denison—My plan is to remove the queen at the onset of the honey-flow, and immediately after it closes, release the queen and give her room by extracting all the honey.

Dr. W. K. Marshall, of Marshall—I produce mostly comb honey. My plan of getting bees into boxes is to take a table fork and scratch the combs containing honey; in order to repair this damage, all the honey must be removed, and to make room for it, it will be carried above and deposited in the sections. This plan I use when I have toward the end of the season a lot of partially filled sections, and have never failed to have my sections nicely finished, so that carrying over half-filled sections to another season is entirely obviated, besides getting all of my sections in a marketable condition. I utilize all of the surplus honey in the brood-chamber. As to the most practical method of obtaining the most honey—while I do not altogether fancy the idea of destroying the little busy workers that have spent their lives in industrious honey-gathering—my plan would be to kill the queen at the commencement of the honey-flow, and at the close kill the bees. By this method I save the honey consumed in feeding

young bees that would be ready for field labor after the honey harvest was over; and when we consider that the 20,000 or 30,000 bees in a working colony must each be given a drop of honey on hatching, and consume each day several drops, we realize the enormous expense of producing bees during a heavy honey-flow; and we should have no more conscientious scruples in killing them, than in killing a fatted pig.

(Continued next week.)

Hive-Making by Hand.

When I was studying for a couple of years, and trying to decide what hive to adopt, I decided upon one thing, and that was that I never would invent a bee-hive. Then I got to where I must either make a hive or wait, and I didn't want to wait. Of course I had the "A B C of Bee-Culture," and could read what it said, but such things as dummies, T supers and bee-spaces, were like Greek letters to me—I had to learn what they were, and what they meant.

It took me half a day to make the first frame, and then it was not quite right. I am now making a hive of the dovetailed pattern and dimensions, with all dovetails left off from the bodies and frames. If I mention just three points, my method, I think, will be plain to all:

1st. Making the body of half-inch boards, and using two thicknesses for the ends, the inside end-board forms the rabbet without cutting a rabbet, and the sides nail on to it. The outside end-boards nail on to the ends of the sides, thus forming a double box, lap-joint, cross-nailed.

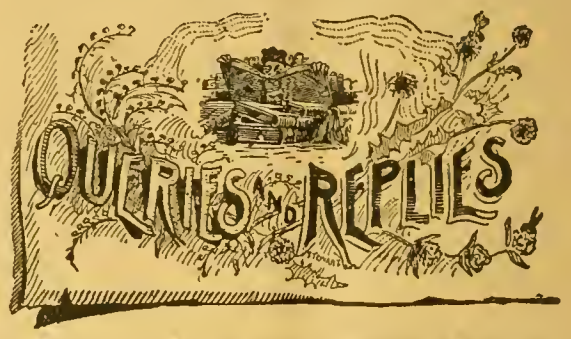
2nd. Top-bar and bottom-bar of frames nail inside of the end-bars, and by cutting the end-bars Hoffman style, they can be hung on a wire-nail driven into the top-bar, instead of leaving the top-bar projecting; this makes the sawing of frame stuff all square.

3rd. The square-cut sawing-box with one end, and the saw-kerfs properly arranged, enables me to saw everything square and true, and of the right length, without measuring, after the material has been worked out the proper width and thickness.

Don't think for one moment that I recommend making hives by hand, except for spare hours, rainy days, or when a beginner has nothing else to do, and wants to keep learning. Make every part entirely interchangeable, and all standard dimensionss, o that when you need factory-made hives to keep up with your increase, all will work together.

E. B. WHIPPLE.

Grasmere, Fla.



Locating an Apiary on the Side of a Mountain.

Query 871.—1. Would it be advisable to locate an apiary on the east side of a mountain, where it would be shaded after 3 p.m. in the summer, with an east and south exposure? 2. Would it have any influence regarding the bees working late in the day?—Oreg.

I should not think so.—MRS. L. HARRISON.

You can judge much better than one 3,000 miles away.—R. L. TAYLOR.

I don't think it would make much difference, if other things are the same.—J. P. H. BROWN.

In my locality it would be all right—just the place I should want, for several good reasons.—H. D. CUTTING.

1. I would risk such a location every time, if it afforded plenty of bee-forage. 2. I think not.—G. W. DEMAREE.

1. It might be, if no better could be had. 2. On some days, at least, they'd knock off work earlier.—C. C. MILLER.

1. I should consider that a first-class location. 2. I do not think it would make any serious difference.—C. H. DIBBERN.

1. I would put them there if it suited my convenience. 2. I don't think it would, if they had good pasture.—E. FRANCE.

1. Yes, if a due south exposure cannot be had. 2. Yes, they will stop flying earlier in the day, but will also begin earlier.—DADANT & SON.

1. I think that would be a good location. 2. If they lost any time in the evening, would they not make it up in the morning?—EUGENE SECOR.

This is owing to temperature, conditions, etc. In this climate (Southwestern Illinois), southeast and south slopes are preferable.—J. M. HAMBAUGH.

I should suppose it would depend upon the temperature. The shade might be a benefit. It all depends upon the temperature of the place.—A. J. COOK.

1. That ought to be a good location. 2. Bees work with us as long as it is light enough to see the flowers—if there is honey in them to gather.—G. L. TINKER.

1. I cannot say. 2. I would think it would, as the mountainous countries have cool nights, and the sun would be needed to the latest hour possible.—JAS. A. STONE.

I think any *real* advantage or disadvantage of such a location would not be noticeable after a term of years trial, between such and an ordinary location. —G. M. DOOLITTLE.

As to location, I prefer such ; but the shade might retard afternoon work to a perceptible amount. I, however, would not hesitate, as this is simply theory.—WILL M. BARNUM.

1. No, not if you can get a better location. 2. Bees would not work as well late in the afternoon, but the principal loss would be in breeding up in the spring.—P. H. ELWOOD.

1. If an apiary must be located on any side of a mountain, the east and south sides are to be preferred. 2. Its influence except in cool weather would be very small.—M. MAHIN.

1. If in a good locality, I think it would if not too high. 2. Probably they would not work quite as long, yet I doubt if there would be any appreciable difference found.—J. E. POND.

1. I know nothing about mountains. 2. I should think that it might often shorten the day's work, but that end of the day is not often of much value for honey-gathering.—JAMES A. GREEN.

1. That depends upon where the mountain is. It might be an advantage to have the bees shaded during that part of the day, but I very much doubt it. 2. I should think it would.—A. B. MASON.

1. Such a location is better than one shaded in the morning. 2. Somewhat, but it has some advantages—gets the bees home out of the damp, night air where they might catch cold.—J. H. LARRABEE.

1. I think it would be all right to locate an apiary on the east side of a mountain. 2. When bees are gathering honey, it is usually warm weather, and it would not make any difference if it were cloudy all day. It might make a little difference early in the spring, or late in the fall.—MRS. JENNIE ATCHLEY.

1. I do not think this would be a very bad location. 2. If the weather was clear and warm, I do not think it would make much difference about the lateness of their working. If cold and cloudy it might.—EMERSON T. ABBOTT.

1. If you can give them no other location, it would have to do. 2. It would shorten the day's work from 2 to 3 hours, which is a big item, but I had rather lose 3 hours in the afternoon than one in the morning.—MRS. J. N HEATER.

1. I should prefer a location where the sun would shine later than 3 p.m. Still, if you could secure desirable pasturage in such a location, not to be obtained elsewhere, it might pay you to locate there. 2. I think it would, especially in damp and cool weather.—S I. FREEBORN.

The Washington Convention Report is now in pamphlet form, and we shall be pleased to mail a copy to any one desiring it, for 25 cents. It contains 32 pages. As only a very limited number were printed, you should order promptly if you want a copy.

Bee-Keeping for Profit.—The second edition of Dr. Tinker's new book is now ready to send out. It gives his New Management complete, and three years of added experience in its use by himself and other bee-keepers. Several new illustrations have been added, besides much new matter in regard to the use of perforated zinc. Price, 25 cents, postpaid, or clubbed with the BEE JOURNAL for one year for $1.15.

The World's Fair Women " Souvenir " is the daintiest and prettiest book issued in connection with the World's Fair. It is by Josephine D. Hill —a noted society lady of the West—and contains superb full-page portraits and sketches of 31 of the World's Fair women and wives of prominent officials connected with the great Fair. It is printed on enameled paper, with half-tone engravings, bound in leatherette. We will send it postpaid for 75 cents, or give it for *two* new subscribers to the BEE JOURNAL at $1.00 each.

Report of the Indiana State Bee-Keepers' Convention.

Written for the American Bee Journal

BY WALTER S. POUDER.

(Continued from page 594.)

SECOND DAY—MORNING SESSION.

Pres. Russell—We will now listen to an essay by Dr. J. M. Hicks, of Indianapolis, on the subject of

Relation of Bees to Horticulture.

I believe that a very important question has been put into very poor hands for discussion. The subject is one, at least, that I am unequal to present in the light that I would like to, but if you will bear with me in my imperfections, I will do the best I can.

The relation bees hold in the proper and successful management of horticulture has never been very well understood in this country, except by a few of the most successful fruit-growers. Yet, nevertheless, there is a natural law that governs and controls those fixed principles in the economy of nature; in the proper fertilization of fruits, both large and small, in order to carry ont her plans that all may be equally benefited, both rich and poor alike. How beautifully we see and realize the fact that bees are the sure messengers in assisting horticulture and the horticulturist in reaping and gathering a bountiful crop of fruits, as well as many of the various grains and seeds of the land. The intimate connection of bees with Nature's elegancies—flowers—is an association which links them agreeably to our regard, for each suggests the other, the vivacity and animation and music giving variety to that which might otherwise pall by beautiful but inanimate attractions. When combined with this the services bees perform in their eager pursuits, our admiration extends beyond them to their great Originator, who, by such apparently small means, accomplished so simply, yet so completely, a most important object of creation.

That bees were kept and cultivated by man in the earliest conditions of his existence, possibly whilst his yet limited family was still occupying the primitive cradle of the race at Hindoo Koosh, or on the fertile slopes of the Himalayas, or upon the more distant table-land or plateau of Thibet, or in the more verdant valleys of Cashmere, or wherever it might have been, somewhere widely away from the Caspian sea in an eastern direction, it is a very probable supposition. Thence ensues the fair deduction that phanerogamous, or flower-bearing, plants existed, and bees consequently necessarily too; thus participating in reciprocal advantages, they receiving from the plants sustenance, and at the same time giving them fertility. Both to the horticulturist and to the florist is seen their valuable assistance in procuring remunerative returns.

Thus we see that the Great Architect of the Universe has given to man the bees as a valuable co-worker in perfecting his wonderful designs in Nature, which are for the good of all concerned. It is also equally true that if it were not for the valuable aid that the bees and some other insects perform in fertilizing many of the blooms of fruit-trees and garden plants, we should soon be found wanting in a proper supply of fruit and seeds, in carrying on the laudable business of horticulture, as well as fail in having seeds of a good quality at planting time.

Then let me ask, would it not be good policy for all who wish to succeed in the one to also at least provide a few colonies of bees to aid in carrying on the other? I have no long-spun theories to offer as to the necessity of all who can do so to keep a few colonies of bees; but it is a well-known fact that many of our vegetables, such as cucumbers, tomatoes, and other garden products are greatly aided by the work of the bees in visiting each blooming plant, which is sure to exchange pollen from one to another, and thus aiding the tiller of the soil as God's grand work in maturing and furnishing a bountiful crop to the husbandman as well as much aid to the horticulturist.

I trust that I have at least mentioned a few points that may be of some interest to those of our bee-keepers who may wish in the future to manage bees in connection with horticulture, for herein lies a grand truth that the two are directly and intimately connected with and depend largely upon each other.

DR. J. M. HICKS.

Pres. Russell—You have heard the essay by Dr. Hicks, which is certainly one of great importance, and a subject on which all of us perhaps are not very well posted. Remarks are now in order.

Dr. Hicks—I would like to say a few words more, and that is, that last year, in my vicinity right east of the city about two miles, there is a gentleman who is largely engaged in growing cucumbers, as well as many other vegetables for the market here. He had not been successful in getting the proper amount of fruiting; that is, to have the cucumbers stick to the vines until of proper maturity and proper size, until I moved there. I had with me a few colonies of bees, as it is always my custom to keep a few bees, and after awhile this gentleman told me that he had never raised cucumbers so well until I came. "I find that the bees are instrumental in fertilizing the bloom of the cucumbers, and that they bear over a half more than they used to," he added. I, myself, have always found that plants and vegetables that are raised in abundance do better where there are bees, and I am well satisfied that they and a good many other little insects that we think very insignificant, are God's chosen instruments through which man is greatly benefited, many times, when he little thinks how it comes about. His interests are advanced, and he is often blessed in many ways through the instrumentality of these little insects.

BEES DON'T INJURE GRAPES.

Mr. Pope—I have heard some people say that the bees puncture grapes and destroy them. I want to say that there is not a bit of truth in that. Some other insect, or perhaps the action of the weather, may destroy the grape, and then the bees will suck the sugar, but I know it is impossible for the bees to puncture grapes.

Mr. Raab—I have a neighbor who is a farmer, and several times I have tried to convince him that the bees do not scratch a grape. I have told him that they will suck the sugar after it is punctured some other way, and that I knew this to be true, for I had both grapes and bees, and they were never injured at all by the bees.

Mr. Simmons—I believe also what has been said, that it is impossible for the grapes to be punctured by the bees. I made a microscopic examination, and found from their construction that it is impossible for them to do so.

Mr. Catterson—If you are not already satisfied on this point, my friends, just take a healthy bunch of grapes and put them into the brood-chamber. The bees will keep it warm all winter, and at the end of the cold weather, it will be almost as good as when you put it there. I am satisfied in my own mind that the grapes can be kept at the same temperature as the bees.

Mr. Muth—I know that there are dealers in Cincinnati who have tried to create the impression that bees poison grapes; but we know that this is not so, for as we have said before, it is impossible for bees to puncture grapes, and it is of great importance that we should not deceive these grape dealers. Again, I know a friend who has in his yard some 70 or 80 colonies of bees, and he claims that since he put them there, his grapes have been better than ever before, and he attributes this to the fact of his having the bees in his vineyard.

Mr. Pope—If we can only get these facts known among the farmers of Indiana, that their bees are their friends and not their enemies, it will be of the greatest benefit.

Dr. Hicks—In addition to what I have already said on behalf of the honey-bees being the friend of man, I will also state that about three years ago I sent out 150 loads of grapes, while my neighbors got no grapes at all. I also attributed this to having my bees in my vineyard, and fertilizing the bloom of the grape at the proper time. I let my grapes remain until quite late in the fall, and then finally gathered them, made one-half a barrel of wine, and had all we needed for our personal use. I think had it not been for the bees, we should have had no grapes at all.

Pres. Russell—I believe that in undertaking horticulture for the benefit of the bees, that the bee-keepers have found it to be the main feature of bee-culture.

Mr. Pope—I want to draw up a resolution that the bees do not injure the grapes, and if possible, establish this fact among the bee-keepers and farmers.

At the suggestion of Mr. Pope, the following was presented and adopted:

Resolved, That it is the sense of the Indiana bee-keepers that it is an impossibility for bees to puncture grapes or injure them.

Pres. Russell—The last essay on our programme is one by Mrs. Rebecca H. Herr, entitled,

How to Manage Swarms.

This properly includes from spring to fall, leaving them in good condition for winter. There are more ways than one, some shiftless and careless, others or-

derly and careful. The first includes all those who keep their bees in old rotten boxes, or cuts of hollow trees, with cross-sticks in them. Sometimes all shapes and sizes of boxes are used, and put in the weeds, and sheltered by nothing better than a wire fence.

Beginning with a well-regulated family or colony, about the first of June where there are uniform boxes in size and shape, with movable frames, when a swarm leaves the parent colony, we get them to settle on a tree or bush as soon as possible by throwing water among them, and the ringing of bells, and the usual uproar that women and children can make. When they are well settled with water, we prepare a hive for them, putting in two or three frames of empty combs, and some with starters so that they will deposit the honey they have carried with them, or if you want them to store honey in the sections, I would put in fewer frames in the brood-chamber, and put on sections at first that are partly filled with honey, taking them from the parent colony if I had them. A good early swarm in a good honey season will store surplus honey.

When the brood-chamber is contracted too much in June and July, and the honey taken away too closely, you will have to give more room in the brood-chamber in August for honey and brood. If the fall is favorable to honey-gathering, the colony will store enough to winter on, but if the fall is not favorable the colony must be fed. See that there is a good queen and plenty of bees and stores, and there will then be a good prospect for profit the next season.

MRS. REBECCA H. HERR.

The above essay was read by the Secretary, in the absence of Mrs. Herr.

Mr. Muth—We shall need some one at the World's Fair to take charge of the bee-department there, and I recommend Dr. A. B. Mason, of Auburndale, O., in this capacity. We could not find a better man. I make a motion that this gentleman be appointed as General Superintendent of the bee-department at the World's Columbian Exposition this year. Carried.

A motion was made by Mr. Pouder that the report of the bee-keepers' convention be sent to the AMERICAN BEE JOURNAL for publication, and then returned to the Secretary of the State Board of Agriculture. Carried.

The convention then adjourned until the afternoon, for the election of officers.

SECOND DAY—AFTERNOON SESSION.

The Association was called to order at 1:30 p.m., by President Russell, for the election of officers, which resulted as follows:

President—R. S. Russell

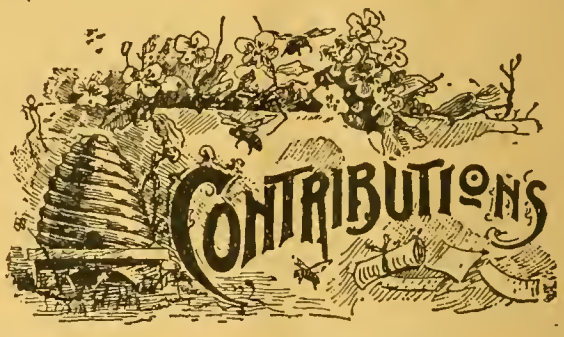
Vice-Presidents—John Manford, Mr. Pope, and A. J. Simmons.

Treasurer—Walter S. Pouder.

Secretary—Geo. P. Wilson.

After kindly wishing all success the coming year, the Association adjourned *sine die*.

A complete exhibit of bee-keepers' supplies was made by Mr. Walter S. Pouder and others, which attracted much favorable comment.



Hard Winter, Bee-Paralysis, Poisonous Honey, Etc.

Written for the American Bee Journal

BY G. W. DEMAREE.

I have long been aware of the fact that in this climate bees can survive a severe shock of cold with no other protection than the ordinary hive gives them, provided the cold does not continue more than two or three days at a time. I had a hive robbed of its honey-boxes several winters ago, leaving the top-bars of the frames uncovered, except the hive cover which rested on the upper story, 10 inches above the top of the brood-frames. While in the unprotected condition the bees survived a shock of 20° below zero—the coldest morning I ever experienced. The cold lasted but a few days, and when their unprotected condition was discovered they were dry, lively, and in good health.

The cold spell of this winter, which broke up about Jan. 25th, was the longest continuous cold-snap of which I have any memory since I have been keeping bees. As my apiary was caught just as I left it when the last surplus was removed—which was precious little

—I gave the bees up as lost; but, to my surprise, they came through the ordeal unscathed. A large number of colonies in my yard are in hives that have 20 Langstroth frames, and these are as safe and lively as the rest. I have often observed that my bees winter best in roomy hives.

During the extremely cold weather here the ground was protected with from 6 to 10 inches of snow, and all bee-forage is in safe condition, as the weather has been moderate since the snow melted away. The prospects are fairly good for the 1893 honey crop.

BEE-PARALYSIS—IS IT A DISEASE?

I think not. My attention was called to this trouble with bees, in the latter part of the summer of 1883. Since that time I have watched its course and progress, and I am satisfied it is not a disease, but is caused by a vegetable (nectar) poison. I have never seen its effect at any time when bees were gathering nectar from the *staple* honey-plants.

I have seen no signs of the so-called disease at any other time than in the early spring and in the late summer. At these times bees may gather both nectar and pollen of such doubtful wholesomeness, that they would not touch it when the locust, white clover and linden are supplying their wants. The simple fact that the trouble occurs only at such periods of the season makes it look very suspicious that vegetable poison is at the bottom of the trouble. Nectar in flowers, secreted in hot, dry weather, is more than usually concentrated and strong, by reason of rapid evaporation, and when poisonous weeds tempt the bees at such times, it is not at all strange that they may find "death in the pot." It is no uncommon thing to find bees in a state of *stupor* on certain wild flowers, no doubt the result of nectar poison.

If I am correct in my views, the practical way to deal with the trouble is to feed sweetened water, as much as the affected colony will take. This will allure the bees from the source of danger, and help to dilute the unwholesome nectar, and make it less dangerous to the bees.

I have spent considerable time among wild flowers and the working bees in the early spring and late summer and fall, and I have found no inconsiderable number of bees on the wild flowers in a state of stupor, as if under the influence of an opiate. I have often picked up the opium-affected bees, placed them on my hand, and observed the well-described paralytic symptoms. Nothing of this sort has ever attracted my attention when bees were at work on the clovers and other standard flowers.

I once thought that the time of year had something to do with the manner in which bees fall like leaden bullets in front of the hives in spring, late summer and fall, both in warm as well as in cool weather; but I do not think so now. Since I have never seen anything like it when the bees were working under the greatest strain, in warm as well as in cool weather, in a time of a rapid flow in white clover harvest, I think it most probable that soporiferous nectar being handled by them causes them to tumble so clumsily.

IS THERE POISONOUS NECTAR?

The question is often asked if some plants and trees do not yield poisonous nectar. I think it is safe to say that none do habitually. But I am quite sure that certain conditions of weather, plant health, or some unknown causes, do often affect more or less the nectar of some plants and trees.

Honey is not a simple sugar, in fact, or *inverted*. Nectar is a secretion from the crude juices of plants, highly refined, and often nearly, if not fully, evaporated, and sugar *inverted* by normal fermentation, before it is gathered by the bees. In view of these facts, and what we know about animal and vegetable circulation, it is not difficult to see how that sometimes irregularities may be induced, which may and do, under certain circumstances, divert unwholesome qualities of the crude juices into the flow of nectar. But these causes have always existed, and I have no fears that they will be worse.

Christiansburg, Ky.

Description of the Langdon Non-Swarming Device.

Written for "Insect Life," Vol. V., No. 4.

BY FRANK BENTON.

Complete control of natural swarming has long been regarded by apiarists as one of the most desirable points to accomplish in connection with their pursuit. Yet, up to the present time, notwithstanding the improvements which modern ideas in apiculture have suggested in this direction, they have had to admit it one of the most puzzling with which they have had to do.

The advantages in being able to sup-

press at will and without detriment to the colony the desire on the part of the bees to swarm are numerous. Chief among these may be mentioned: There need not then be the great interruption to honey-storing which the issuance of swarms brings in the height of the honey yield. The apiarist could have all his return in the shape of honey instead of partly in the form of swarms, clearly an advantage when the number of his colonies had reached the limit of his field, or as many as he could well care for, and remunerative prices could not be obtained for the surplus stock. The time and labor expended in watching for and hiving swarms would be saved. Losses through the absconding of swarms would be avoided. Even with all reasonable care such losses often occur.

Centuries ago the Greeks recognizing some of the advantages which the control of swarming would give to the bee-keeper, practiced with their basket-hives furnished with bars across the tops, the transfer of combs with adhering bees to new hives, thus forming artificial swarms. This is interesting to note as being the first recorded attempt to control swarming. Contardi, who wrote in 1768, describes these hives, and says: "When the bees should swarm, those people do nothing but to take out some of these bars to which the bees attach their combs, and they place them upon another basket or hive. It is in this manner that the Greeks multiply their hives." The abbot, Della Rocca, of Syria, in the Grecian archipelago, in his *Traite complet sur les Abeilles*, published at Paris in 1790, mentions this as "a method of the ancient Greeks for the multiplication of swarms, which is employed to-day by the inhabitants of the Island of Candia." And Liger, the author of *La Maison rustique*, in the eighth edition published in 1742, gives a figure of one of these basket hives.

Most of the systems of preventing or limiting natural swarming have depended upon the formation of a limited number of artificial swarms, frequent destruction of queen-cells by the bee-keeper, close use of the honey-extractor, the combining of after-swarms, changing places for hives, replacing of all queens annually, supplying empty space for comb-building below the brood-nest or between the brood-nest and flight-hole, or there has been some combination of these methods.

From time to time queens have been advertised as bred from "non-swarming strains of bees." While it is very reasonable to suppose that the inclination to swarm might be decreased considerably by long-continued, careful selection, such as would be given had we better control over mating, it is safe to say that comparatively slight permanent results have thus far been attained in this direction. And since swarms would issue, various devices have been constructed to warn the owner, or to prevent loss during his absence. Electric attachments and telephone lines have been put up, adjusted entrances to confine queens, traps to catch the latter, and decoy-hives have been used, and at last the automatic or self-hiver has been evolved after many experiments and much thought on the part of apiarian inventors. Although the self-hiver in its more perfected form has scarcely been subjected to a thorough test, it promises to do all that has been expected of it. But it will not

TAKE AWAY THE DESIRE TO SWARM.

This is exactly what Mr. H. P. Langdon, of East Constable, N. Y., says he can do by the use of the non-swarming attachment invented by him, and now for the first time made public. Moreover, he keeps all of the field force of his colonies storing surplus honey under the most favorable conditions as long as there is any honey to be obtained in field or forest, and simplifies to such an extent the work of the apiary during this portion of the year that he can attend to several times as many colonies as under the old way.

The immediate condition which incites a colony of bees to swarm has been quite well recognized as its general prosperity —its populousness, the abundance of honey secretion, and crowded condition of the brood-combs, or, in general, such circumstances as favor the production of surplus honey, especially surplus comb honey, and it has of course been taken for granted that honey could not be secured if these conditions were changed. Nor would it, without any knowledge of the system proposed by Mr. Langdon, be easy for experienced bee-keepers to believe that all it proposes to do could be accomplished without much manipulation, and perhaps also the use of some complicated device.

I was, however, agreeably surprised at the whole simplicity of Mr. Langdon's plan, when, in December last, he made it known to me, and sent a non-swarmer for purposes of illustration; and in answer to his request as to what I thought of it, I wrote him at once that I was of the opinion that he had made one of the

most valuable additions to the list of apiarian inventions that had appeared for a long time—one that, after the frame hive, would rank equal with or ahead of the honey-extractor and comb-foundation machine.

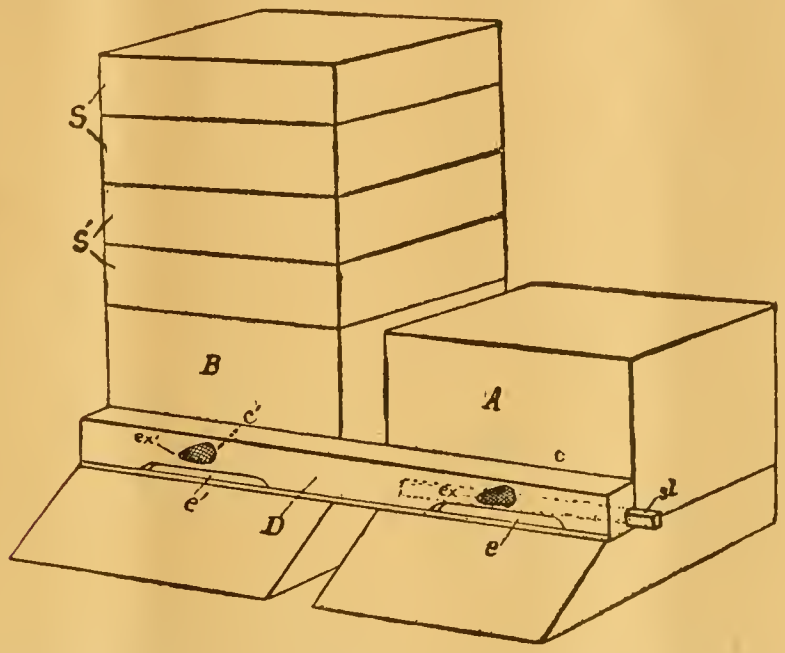
Mr. Langdon has applied for letters patent on his device in this and other countries, and with the specifications as a basis, a copy of which he has kindly sent to me, together with permission to make the matter public, I have written the following

DESCRIPTION OF THE DEVICE AND SYSTEM.

At the beginning of the honey season the non-swarming device, D, shown in the diagram, is placed at the entrances of contiguous hives, each of which contains a queen and a full colony of bees. The continuous passage-ways, *e* and *e'*, on the underside of the device, correspond to the entrances of the hives A and B, respectively. The bees will then pass, quite undisturbed, out of and into their respective hives through these passage-ways. By inserting the slide, *sl*, in the end of the non-swarmer until it occupies the position indicated by the dotted horizontal lines the passage-way leading to hive A will be closed at its juncture with the hive-entrance, preventing any bees from entering said hive. The wire-cloth cone exit, *ex*, still permits flight-bees to come out of hive A, as a hole through the non-swarmer connects the cone exit with a corresponding hole in front of the hive. The super cases S of hive A are then placed on those of hive B.

The flight-bees of hive A finding their hive-entrance closed on their return are, upon alighting at the entrance *e*, attracted along the gallery by the buzzing of the bees at the entrance *e'*, of hive B, and enter said hive. This withdrawal of the field-bees from hive A leaves this hive so depopulated, and so disconcerts the nurse-bees left therein that they will not swarm; meanwhile work is going on without interruption in the supers on hive B by the field force of both hives.

At the expiration of eight to ten days, thus before the bees of hive B have made preparations to swarm, the supers S and S on this hive are all transferred to hive A, the slide, *sl*, is withdrawn from entrance *e*, thus opening this hive, and is inserted in the opposite end of the non-swarming divice, so as to close the entrance, *e'*, to hive B. The bees thus excluded from hive B will be called along the gallery of the non-swarmer by the bees at the entrance, *e*, and with these bees will enter hive A, thus bringing about in hive B the same conditions as were previously induced in hive A by closing the latter. At the same time the field-bees of both hives were working continuously in the supers on the hive A, the entrance of which is open, and the flight-bees in hive B are escaping through the cone exit, *ex'*, and joining those of hive A.



Bee-hives with Langdon Non-Swarmer attached. A, B, hives; S, S', supers; D, non-swarming device; e, e', entrances corresponding to hive-entrances; sl, slide for closing entrance; c, c', conical wire-cloth bee-escapes; ex, ex', exits of same.

In about a week the supers are again placed upon hive B, the entrance to which is then opened, while that of hive A is closed. In another week another transfer is made, and so on alternately during the flow of honey.

This alternate running of the field-bees from one hive to another, and back again, and the simultaneous transfer of the supers, so disturbs the plans of the nurse-bees, and temporarily depopulates the hives successively closed, that organization for swarming is not effected, hence, *no swarms issue, and the field-bees of both hives work unitedly, and without interruption throughout the entire gathering season.*

ADVANTAGES OF THIS SYSTEM.

The experienced bee-master will not only readily see that this meets the requirements mentioned in the first part of this article as advantageous to secure, but also that in many other ways it is likely to prove a system of great value in the apiary. Mr. Langdon has mentioned some of these, and I will therefore quote from his letter:

1. Two light colonies that would not do much in sections if working separately, make one good one by running the field force of both into the same set of supers.
2. No bait sections are needed, as the bees can be crowded into the sections without swarming.
3. The honey will be finished in better condition, that is, with less travel-stain, because the union of the field forces enables them to complete the work in less time.
4. There will be fewer unfinished sections at the close of the honey harvest, for the reason just mentioned.
5. Also for the same reason honey can be taken off by the full case instead of by the section or holder full.
6. Drones will be fewer in number, as a double handful will of often be killed off in the closed hive while the other is storing honey rapidly.
7. Artificial swarms and nuclei can be more easily made, as combs of brood and bees can be taken from the closed hive in which the queen can be found very quickly.

As there is in carrying out this system of swarm prevention no caging of queens, cutting out of queen-cells, manipulation of brood-combs, or even opening of the brood-chambers at all during the honey season, and all the vexatious watching for swarms, and the labor and time involved in securing these are done away with, and instead of this a simple manipulation attended to not oftener than once a week is substituted, it is plain that very many more colonies can be managed by one person, and, indeed, Mr. Langdon informs me that he "can care for 200 colonies with one day's work in a week with no help, instead of working all the time with 100 colonies." It will, therefore, prove a great boon to all having numerous out-apiaries.

One of the greatest advantages over any plan for the prevention of swarming yet proposed, which Mr. Langdon's system will have, should it prove on further trial all that it now promises, is that it will not only prevent more effectually than any other the actual issuance of swarms, but, while not requiring any manipulation antagonistic to the known instincts of bees, it will prevent all desire to swarm—will completely do away with the "swarming fever," so fatal to the hopes of the comb-honey producer.

Another great feature of it will be the more rigid selection of breeding stock, which it will facilitate. Intelligent selection can accomplish for this pursuit as much as it has done for the breeders of our larger domestic animals. Furthermore, a strong natural inclination toward swarming on the part of any race of bees, otherwise possessed of very desirable traits, will not, under this system, oblige the rejection of such race. Eventually the disposition to swarm must through constant suppression become less, or, in time it may even disappear, giving us the long-sought non-swarming strain.

THE SYSTEM TESTED PRACTICALLY.

A brief statement of the success which has attended Mr. Langdon's practical test of his system during 1892 will be of interest in this connection. In a letter dated Dec. 24, 1892, he wrote:

Last season I tried the device on 100 hives. Except in one instance the bees did no fighting. Why they do not fight when united in this way I cannot say. It certainly did not discourage them in honey gathering, for my yield from the 100 hives was 6,000 pounds of comb honey, or an average of 60 pounds per hive, some pairs yielding 150 pounds, and it has been counted a poor season for bees in my locality this year. After one season's trial of the device and plan, I do not know of a single fault or objection to it.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10

Teachers in Bee-Keeping, Fall Re-Queening, Etc.

Written for the American Bee Journal

BY DR. ALBERT SAYLER.

"Our School in Bee-Keeping" in the Sunny Southland department of the BEE JOURNAL, conducted by the energetic and intelligent Mrs. Atchley, will, in many ways, be a help in the future to thousands of bee-keepers who have been blundering along in Egyptian darkness with "fogy" box-hives, on the principle of, "It's so. 'Paw' says it's so. It's so *because* 'Paw' says it's so; and if 'Paw' says it's so, it's so whether it's so or not so." The "king bee, how long is he?" and all "sich like," *ad nauseum*.

Like Mr. Doolittle, Mrs. Atchley is building better than she knows. Both are superb school-teachers—vigorous in style of expression, clear and concise. When Mrs. A. sets out to explain an operation with the bees, she indulges in no apostrophes, parenthetic remarks or side-issues. On this account the tyro can always understand her. In fact, he cannot *but* understand her. I wish that Mr. Alley would at all times in his publications on Queen-Rearing, show these qualities. He generally does, but when he fails to do so, it is almost certain to be at a point fatal to his pupils.

The quality, or faculty—which is it?—of perspicuity in all composition is the most important one. Let a writer possess all the other requisites in however eminent degree, if he fails in this, he fails in all. Such writers should study Shakespeare, Hugo and Byron.

RE-QUEENING COLONIES IN THE FALL.

On page 269, Mrs. Atchley writes as follows:

"At the close of the season, and yet before cold weather begins, if we have been successful and secured a fair honey crop, we may sell a portion of the honey, and buy two pure Italian queens from some reliable breeder, and have our bees Italianized ready for winter, and to start next spring with none but the best bees, etc."

Now on pages 40 and 41, of the *American Apiculturist* for March, the Edison of Queen-Breeders in the article on his latest and best method of queen-rearing, refers to many of his *past* methods as follows:

"Those methods necessitated a good deal of work, and late in the season the loss or great damage to the colony made queenless; in fact, about every colony that was meddled with after Aug. 10th, was pretty sure to die before spring; as the very act of depriving a colony of its queen at that season of the year when the bees should not be molested in any way—certainly not deprived of their queen—is sure to result in disaster.

"It is in the month of August that the foundation is begun for the successful wintering of the colony; and de-queening a colony at the time brood-rearing should be progressing prosperously, is a serious disadvantage to it."

Now "When doctors differ," etc., is a poor consolation to "Greeny." When two of our great lights in bee-lore so pointedly and radically differ on a matter of such general and sweeping significance, to attempt to harmonize or explain away the matter on the ground of "difference of *latitude* and *climate*," will be altogether too namby-pamby, daffy-downdilly—too too-too. "I guess" we'll have to call on the "inimitable Hasty," Doolittle, Hutchinson, R. L. Taylor, B. Taylor, Manum, Tinker, Green, the ever genial and scholarly Dr. C. C. Miller, Demaree, Larrabee, and—the Honey-Bee, to rise and explain in ways *not* dark or peculiar.

FICKLE AND CAPRICIOUS MARCH.

On Friday, March 3rd, bees here were carrying in pollen by wholesale; and so earnestly had they become engaged at this, that they kept it up on the following day until afternoon, when the weather was "catching cold," and nearly freezing. They hated to give it up—this gathering the first fruit of the year.

Cold, and the ground covered with snow on Saturday; and yesterday, Sunday, March 5th, and to-day warm again. Thus it is that fickle and capricious March marches in in this latitude—latitude of Cincinnati; like alternate sunshine and shadow playing over a waving meadow.

FLARING-TOP COMB-BASKETS.

All beginners in bee-keeping should join in giving a vote of thanks to Mr. Jas. R. Bellamy, of Black Bank, Ont., for his superb reply to Query 854. Mr. B., on page 246, certainly explains this "flaring comb-basket" idea, in regard to extractors, more fully and clearly than any or *all* of the experts did under the original question. This answer in question gives a "tip" to beginners when they buy an extractor; and bee-editors are here to guide us in the straight and *economic* way.

I would recommend that genius and

startling innovator and iconoclast, Mr. Heddon, to carefully read Mr. Bellamy's reply; then retract his own reply to Query 854; and finally, graciously and gracefully tip his hat to our neighborly expert, or possibly "apicultural literarian," residing just over the geographic rubricated line.

New Palestine, Ohio.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Strong Colonies this Spring.

Bees wintered finely here this winter, and were stronger this spring when put out of the cellar than when put in; but this is a bad spell on them, the mercury being at the freezing point, and it has been blowing snow all day. THOMAS S. WALLACE.

Clayton, Ills., April 21, 1893.

Only 5 Per Cent. Loss.

My bees have wintered pretty well, only 5 per cent. loss. They were packed in leaves on the summer stands, and were five months without a flight, and have not gathered any pollen yet. I appreciate the efforts to improve the BEE JOURNAL, and think it splendid. IRVIN GROVER.

Cooperstown, N. Y., April 22, 1893.

One of the Worst Winters.

We have had one of the worst winters that we have ever had, and the bees are about all dead in Minnesota. I cannot give any reason for this great loss; it is not only the inexperienced that have lost, but the experienced or professional bee-keepers, the ones that knew just how to winter. It is quite interesting to meet one of these latter bee-keepers, and note how meek and lowly he seems when you ask him how his bees wintered.

As I receive letters from all parts of the West, stating the heavy loss in many apiaries, and in some instances where they had a large apiary, and it had become depopulated, I cannot help but call to memory all that has been said about the winter problem in the way of sealed covers, and upper and lower ventilation, etc.; how we thought we had this great question down to a minimum, and Old Boreas has completely "done us up." There is one thing about the season, we have had lots of snow to protect the clover, and everything seems to indicate a good crop of honey.

WM. H. BRIGHT.

Mazeppa, Minn., April 20, 1893.

Extracting Honey in Arkansas.

My bees at the Arkansas apiary are doing very well; we having extracted, up to this time, from 46 colonies, 1,500 pounds of honey. Those that have been at Rosedale, in Mississippi, have done almost nothing yet; they are run for comb honey. I moved 43 colonies over here to run especially for comb honey. If they do not improve, I shall move them again, or take them back to Arkansas. R. J. MATHEWS.

Rosedale, Miss., April 24, 1893.

Fertile Queens and Alley Traps.

On page 471 is a letter from Mr. Arthur Heiss, and, as it refers directly to my self-hiver, I feel at liberty to answer it.

Mr. Heiss is certainly mistaken about fertile queens taking a flight. Some years ago I used to have all my queens mated from large hives, and as soon as I found them laying I would put Alley traps on the entrances to prevent the bees from absconding. I have had as high as 75 colonies arranged in this manner through the entire season, and I never found a queen in the trap outside the hive. There are some 100,000 traps in use in this country, but there has never been any complaint that they caught fertile queens other than at swarming time.

The queens that Mr. H. speaks of must have been virgin. The one he speaks of "on top of the frames" was simply frightened, that is all. Young laying queens will often take wing from an opened hive,

Beverly, Mass. E. L. PRATT.

Getting Bees from a High Tree.

In August, 1892, one of my neighbors ran a bee-line by my house and asked me to help find the tree; and after cutting it and taking out the honey, I hived the bees in a box for a few days. I then transferred them into a hive, and the next morning they were working as though nothing had happened. They were very gentle, and I think quite good Italians.

Of course, this (my first experience with bees) made me interested, so I started another line, and before night had them located in a large cucumber tree, not far from where I started them. The bees went into the tree about 90 feet from the ground, and it was 75 feet to the first limb. I knew if the limb was cut I should lose bees, honey and all. It was a very strong colony, and I was anxious to save the bees if possible,

but how to accomplish it was a question hard to answer.

The next morning I was up "bright and early." I got a small rope, long enough to reach over the limb, tied one end of the rope to an old ram-rod, loaded my shot-gun with powder, and started.

I shot several times, but it fell short of the mark. I then climbed a tree about 75 feet from the bee-tree, and succeeded in getting the small rope over, after which it was very little trouble to draw a larger one over and climb up. The bees went into the tree just below the fork, so I cut out a portion of the tree and lowered it to the ground. Everything was in splendid shape, and the bees had stored 100 pounds of honey.

I then subscribed for the AMERICAN BEE JOURNAL, and I give it the credit of bringing my bees through the winter O. K.

D. A. HOLEMAN.

Selkirk, Va., April 7, 1893.

Backward Season—Heavy Losses.

The season is backward. My bees were removed from the cellar on April 18th, and since that time they have been active only three or four days. The loss in winter, and up to date, is about 10 per cent. I have seen but little pollen brought in. There was much rain and snow during April, and vegetation is later in starting than usual. The loss of bees is quite heavy in this part of the State. They were wintered generally in cellars, but perhaps too cold ones in some cases. EUGENE SECOR.

Forest City, Iowa, May 8, 1893.

Colonies Came Out Very Strong.

I started in the winter with 43 colonies. I found one queenless in November, and united it with another, so that left me 40. They have come through all right, and are the strongest this spring that they have been since I have kept bees. I have been in the business for nine years. Bees have been doing well for a month here. The ground is covered with snow this morning.

B. F. BEHELER.

Jumping Branch, W. Va., April 23, 1893.

Wintered Poorly—Black Bees.

My bees have wintered poorly, and some others have lost heavily, ¼ having died in some cases. I have lost 7 out of 23—6 Italian colonies and one black. All had plenty of nice honey, and were packed alike in good chaff hives. I think the black bees stand the winter best. The Italians stick to the comb best when handling, are not so cross, and are more inclined to early swarming, but not so hardy. I shall stick to the blacks until the Gulf Stream comes this way again.

It is a backward spring. It snowed two inches last night, and is still snowing. We have had but few warm days this spring. The colonies of bees are building up very slowly this spring. Why do bees die when packed nice and warm, with plenty of nice honey, while others winter nicely in a salt barrel? I suppose Dr. Miller "don't know." A neighbor of mine had one in a barrel, and gave it to me. I transferred it on April 3rd. It was a nice and strong colony of black bees, and had stood exposed all winter. CHARLES TAREY.

Houghton, N. Y., April 15, 1893.

New Honey-House—Fine Weather.

I have just finished a honey-house. It would do you good to see it. I will put it up for comparison with any other honey-house in Tennessee. Of course I will not bore you with a description of it, but it is a "daisy."

We are having fine spring weather, and bees are building up finely, but will have to "hoove it" to get ready for the honey-flow.

H. F. COLEMAN.

Sneedville, Tenn., April 8, 1893.

Granulated Sugar that Looked Queer.

I bought 150 pounds of granulated sugar, supposing it to be the best, and when I came to use it to feed to my bees, I found it was mixed with some sort of a mixture resembling indigo blue. I am afraid to use it, for my family or my bees, until I find out more about it. I think it would not be a bad idea to publish this in the BEE JOURNAL, so as to put all others on their guard, who have to use sugar for the same purpose that I do. ANDREW GIRARD.

Linwood, Mich., April 25, 1893.

Extremely Backward Spring.

This has been an extremely backward spring, cold and windy nearly all of this month. Ice formed here last night. A part of my bees are still in winter quarters—no trouble in keeping them quiet this spring. Those removed came out in fair condition, and all alive. I hope we shall have some improvement this year, upon the past four poor seasons.

I have all of the volumes of the AMERICAN BEE JOURNAL, having purchased the first four, and have been a regular subscriber ever since. W. D. WRIGHT.

Altamont, N. Y., April 28, 1893.

Bees Fared Badly—Chilled Brood.

Bees left on the summer stands, without protection, fared badly last winter; about ¾ of all that I have heard of are dead. I had 24 colonies in the cellar, and took them out on March 7th; they are all in good condition at present, and 2 colonies out of 5 wintered out-of-doors are dead. The weather is very unfavorable for bees at present; it is cold and rainy, and my bees bring out a good deal of chilled brood.

FRED BECHLY.

Searsboro, Iowa, April 30, 1893.

Read our great offer on page 613.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, May 13th, 1893:

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

CINCINNATI, O.—A short supply of extracted honey is the cause of a slow demand. It forbids an effort on our part to sell. It brings 6@8c. There is no choice comb honey on our market, and prices are nominal at 12@16c., in a small way.
Beeswax—Demand good, at 22@25c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Comb honey is well cleaned up. Fancy white is selling at 14@15c. Off grades, 12@13c., and buckwheat, 9@10c. Extracted is dull, and the market well stocked with West India honey, which sells at from 68@75c per gallon. Beeswax, 26@28c,
H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

MINNESOTA, MINN.—Honey is in good demand, especially for fancy white clover. There is considerable of the low grade on the market. Extracted is also improving in prices. Beeswax in light demand. Fancy white clover, in 1 lb. sections, 18c.; choice white clover, 16c.; golden-rod, 1 lb. sections, 13@14; dark, 12@13c. Extracted, 9@10c.
J. A. S. & Co.

ALBANY, N. Y.—Honey market quiet at following prices: White comb, 14@15@16c; mixed, 12@13c; dark, 10@11c. Extracted, white, 8@8½c; mixed, 7@7½c; dark, 6½@7c.
Beeswax, 26@30c. H. R. W.

Your Neighbor Bee-Keeper—have you asked *him* or *her* to subscribe for the BEE JOURNAL? Only $1.00 will pay for it for a whole year. And, besides, *you* can have Newman's book on "Bees and Honey" as a premium, for sending us two new subscribers. Don't neglect your neighbor! See page 611.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.
F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.
SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.
J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.
HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. Co., 521 Walnut St.

Albany, N. Y.
H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.
CHAS. DADANT & SON.

Cincinnati, Ohio.
C. F. MUTH & SON, cor. Freeman & Central avs.

Bee-Keeping for Profit.—We have just issued a revised and enlarged edition of Dr. Tinker's book, called "Bee-Keeping for Profit." It details his most excellent "new system, or how to get the largest yields of comb and extracted honey." The book contains 80 pages in all, and is illustrated. Price, postpaid, 25 cents, or clubbed with the BEE JOURNAL for one year, for $1.15.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line**, for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

TO EXCHANGE—High Grade Safety Bicycle, for Honey or Wax.
17Atf J. A. GREEN, Ottawa, Ill.

TO EXCHANGE—Good 6-inch Vandervort Fdn. Mill, for wax, honey, or offers.
J. H. & A. L. BOYDEN,
18A4t Saline, Mich.

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., MAY 25, 1893. NO. 21.

Mr. W. A. Pryal, of North Temescal, Calif., is in Chicago, having come with representatives of the press association. He brought along some fine samples of both comb and extracted honey, being of this year's crop, and taken from the hives the first week in May, some of which he kindly left to sweeten "ye editor." Mr. Pryal has often contributed to the columns of the BEE JOURNAL interesting articles on California bee-keeping interests, more of which we will publish shortly. He made the BEE JOURNAL office several pleasant calls while here. He was "taking in" the great Fair as fast as he could, which is a big job even for a Californian, who is accustomed to seeing wonderful things.

The Josh Billings of Bee-Culture is what "Jake Smith" is proving himself to be in his "amoosin'" letters to "Mr. A. I. Gleenings." What an awful "spell" comes over him whenever he attempts to write! After reading his "letter," we almost feel inclined to send him a spelling-book and a dictionary; but if we should, we fear he wouldn't know how to use them. It's dreadful hard to help some folks, especially when they are so willfully ignorant as Jake Smith and a very *few* others like him! Jake is indeed a "percoolyer hunny-perdoosser!"

Fastening Starters with Paste.—Mr. C. G. Looft, of Cochranton, O., gives the following in *Gleanings*, as a way to fasten starters of comb foundation in grooved brood-frames, using flour paste for the purpose:

Provide a receptacle a little longer than the frames, fit to hold the starch paste. The paste should be quite thick. The proper consistency can soon be found by trial. The starters should not be less than an inch or more in width, unless of heavy brood foundation. When narrow strips of thin foundation were used, the bees, in nearly every instance, cut it down to the wood. A starter long enough for a Langstroth frame is taken up, and one edge dipped into the starch paste. This edge is pressed down in the groove, which is about ⅛x⅛. Then the frame is set away, starter side up, until the starch dries.

The Illinois Honey Exhibit.—Just after closing the forms of last week's BEE JOURNAL, we received the following notice, which we hope every one of our subscribers in this State will read and heed:

INTERESTING TO ILLINOIS BEE-KEEPERS.

At last we send greeting and congratulations to the bee-keepers of the State of Illinois, for the honor conferred by our present General Assembly, in granting us an appropriation of $3,500 for the purpose of making an appropriate exhibit of the apiarian resources of the State at the Columbian Exposition; and we trust that our bee-keepers will arise to the dignity of the occasion, and respond promptly and liberally to the call of their Executive Committee, with their contributions of honey and wax.

The Premium List and Rules and Regulations will soon be made known by circular, and through the columns of the AMERICAN BEE JOURNAL; in the meantime, let me enjoin upon you the necessity of prompt preparations to harvest the incoming crop of honey in the most artistic and fancy forms

that your skill can dictate. Prepare your cases with mottoes, designs and letters, that the bees can draw and weave into fantastic forms, and rest assured it is the ambition of your Executive Committee to see an apiarian exhibit from the State of Illinois, that will be in excess of any exhibit ever before seen in the United States.

This appeal, we are aware, comes very late, but through no fault of your State bee-keepers' officials, who have labored almost incessantly for over two years to receive recognition and justice from the hands of their superiors in office. But the goal has been reached, and let us prove worthy of the occasion, and do honor to our industry, to the State, and to the Nation. J. M. HAMBAUGH.

Spring, Brown Co., Ills.

As stated in the BEE JOURNAL of last week, we trust that every bee-keeper in this State will do all he can to help in making the Illinois honey exhibit one of the greatest attractions at the World's Fair. If you think you can do anything at all towards it, write immediately to Mr. Hambaugh, who will give you such information and assistance as you will likely most need.

The National Stockman of Pittsburg, Pa., in its May 11th issue, had the following announcement at the head of its bee-keeping column:

We take pleasure in announcing that this Department will hereafter be conducted by Dr. C. C. Miller, of Marengo, Ills., which is equivalent to saying that it will be the brightest and best page of its kind to be found anywhere.

We congratulate our agricultural publishing friends upon their wise selection. Dr. Miller is in great demand, and must be a very busy man. But then, he's one of the right kind—would rather wear out than rust out.

Stings and the Breath.—One of our subscribers has sent the following, taken from some newspaper called the *Investigator*. Evidently the "Investigator" didn't investigate very closely, or it would not have published such a foolish item. It was headed with the attractive words, "Wasp Stings," and continued thus:

It is a fact not generally known, that if one holds his breath, wasps, bees and hornets can be handled with impunity. The skin becomes sting-proof, and holding the insect by the feet, and giving her full liberty of action, you can see her drive her weapon against the impenetrable surface with a force that lifts her body at every stroke; but let the smallest quantity of air escape from the lungs, and the sting will penetrate at once. I have never seen an exception to this in 25 years' observation.

I have taught young ladies with very delicate hands to astonish their friends by the performance of this feat; and I saw one so severely stung as to require the services of a physician, through laughing at a witty remark of her sister, forgetting that laughing required breath. For a theory in explanation, I am led to believe that holding the breath partially closes the pores of the skin. My experiments in that direction have not been exact enough to be of any scientific value, but I am satisfied that it very sensibly affects the amount of insensible perspiration.—*Science Correspondent.*

What a beautiful theory that is! We wish the writer of those two paragraphs had a chance to try his fine-spun theory. He could afford to be more "exact," after a trial. It no doubt would very sensibly affect his bump of nonsensical ideas, or give him another bump or lump that would cause him to feel quite insensible—which must have been his condition when writing his "scientific pleasantry." O, great is Science! We have all heard of her before, but not as being quite so *breath*less as in this case.

Preventing After-Swarms is the subject of an article by Bro. Doolittle in *Gleanings* for May 1st. His method is as follows, which he says is "the only certain plan" he knows of:

The morning of the eighth day after a first swarm has issued, I open the hive, take out the first frame, and hastily glance over it for nearly ripe queen-cells; and if none are found, I shake most of the bees off near the entrance of the hive, into which they will immediately run, when the frame is closely inspected for queen-cells, peering into every nook and corner for them; for should some small or crooked one be missed, swarming would surely result. All cells found are cut off, after a frame has been shaken to rid it of bees, for this shaking of the young queens in their cells is almost sure to kill them, or cause deformity.

The next frame is treated the same, unless ripe cells are found, in which case it is set outside the hive, awaiting the finding of a cell from which a queen has hatched, when all are cut off; but should none have hatched, then the best one of these ripe cells is saved and put back into the hive.

In this way we can make sure that no swarm will issue, after the first, from this hive, and it is the only certain plan I know of.

One Cent Postage Stamps we prefer rather than two cent ones. When sending fractions of a dollar, please send us the one cent stamps.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Transferring Bees—After-Swarms.

On page 489, in the answer to the question about the prevention of after-swarms, I think the editor has the Heddon method of a short way of transferring, and the way of preventing after-swarms, mixed up. As answered, it will just start Mr. Bridenstine's bees to swarming in good earnest.

I have nothing to refer to, but I think the Heddon method of preventing after-swarms is as follows:

When a prime swarm issues, hive it in a new hive on comb foundation starters; place this prime swarm on the stand it formerly occupied, removing the old hive just to one side, with the entrance reversed. Commence turning the old hive a little each day for eight days, when its entrance should correspond with the new prime swarm's hive-entrance.

On the eighth day pick up the old hive and carry it to the far side of the apiary, giving it a new location. The work is then done, and the bees usually do the rest. GEO. N. PHILLIPSON.

Merrivale, Tex.

ANSWER.—Yes, you are right as to the mixing. That answer was given by an assistant in whom we had great confidence, and it went in without close scrutiny. As soon as your letter was received (and we thank you heartily for calling our attention to the blunder), we called up the guilty party, stood him up in a corner, and proceeded to castigate him in this wise:

"What did you mean by describing a method of transferring when prevention of after-swarms was called for?"

He turned very red in the face, then looked pale and began to tremble. After swallowing hard a few times, he stammered, "I thought the Heddon method was called for."

"Stop letting your teeth chatter that way," said we, "and tell us whether you gave a method for preventing after-swarms."

"Wh—wh—why," said he, and then he stopped. Then his face brightened, and he said, "Why, how could there be any after-swarms after all the bees were drummed out of the hive?"

"That's an evasion," said we, "and hereafter please don't give transferring instead of prevention of after-swarms, unless you want to be transferred yourself."

By way of apology for our assistant, we may say that the method of transferring originating with Mr. Heddon is so deserving that it has come into great prominence, and when the "Heddon method" is spoken of, it is generally the Heddon method of transferring that is meant, so there is little excuse for the careless answer.

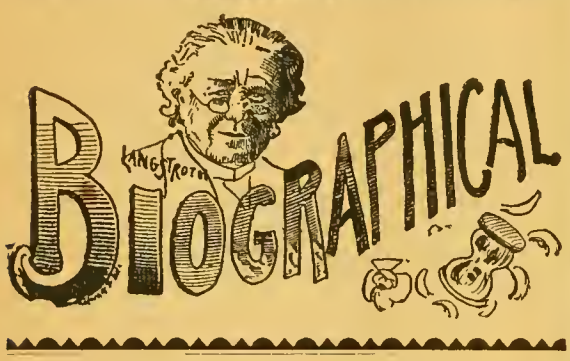
The answer given is the "Heddon method" of transferring, and you are hardly correct in supposing it would set the bees to swarming in good earnest, for surely a plan that has been practiced so long by Mr. Heddon and others would hardly have become so popular if it were open to the objection that it induced swarming. The majority of the bees are driven out, then the hive is so placed that all the field bees will desert the old hive, and the result is that there is no desire to swarm with such a small force, especially as it must be remembered that in general there has been no swarming-fever, and that cells were not started until after the removal of the queen.

Your description of the Heddon method of preventing after-swarms is not so very far out of the way. Instead, however, of reversing the old hive at swarming, turn it only half way around. If your hives face east, then let the old hive face the north or south. Instead of moving the hive a little each day for eight days, Mr. Heddon moves it only once before putting it on its final stand. That is about two days after swarming, when the old hive is turned around parallel with the new one. Three or four days later, or five or six days after swarming, at a time in the day when the bees are well at work in the field, the old hive is removed to a new lacation. your plan to move the hive a little every day for eight days, would be a good deal more sure to result in swarming than the plan given by our unfortunate assistant. For, eight days after the issuing of the first swarm is the time Mr. Heddon says at which second-swarms may be expected, and it would be of no use to move the hive after that time. Still, the weakening of the old colony by turning its hive around at the time of

swarming, would do much to prevent further swarming.

To put it in brief, the Heddon method of preventing after-swarms is this :

Suppose your colony swarms June 1st. Hive it on full sheets of wired foundation, put the new hive on the old stand, set the old hive a few inches to one side, facing at right angles to the position of the new hive. On June 3rd, turn the old hive back, facing the same way as the new one. On June 6th or 7th remove the old hive to a new location, at a time in the day when the bees are well at work in the fields.

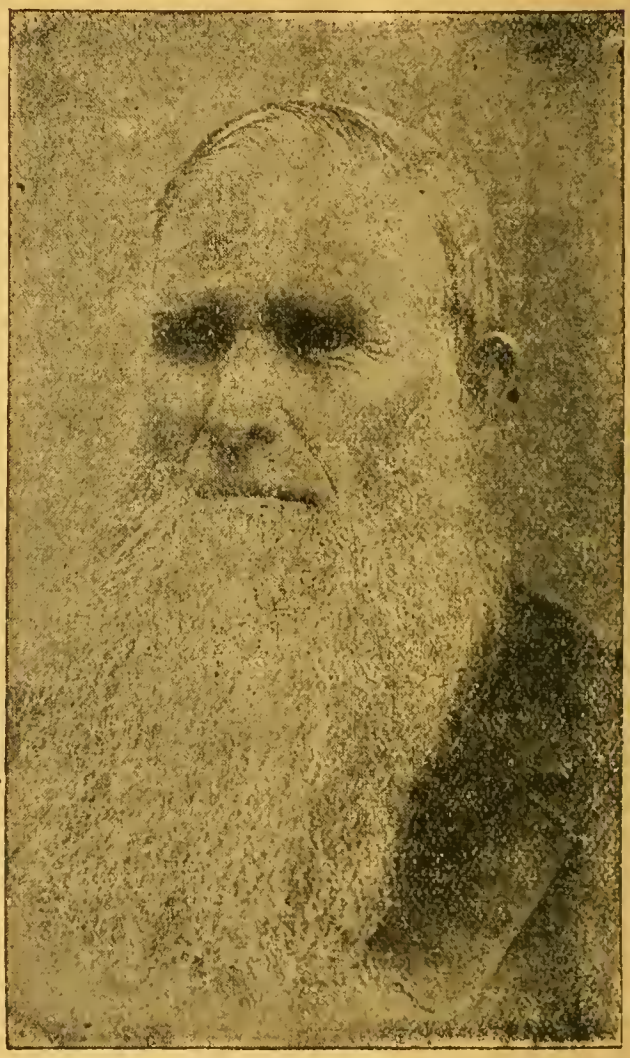


EDWIN FRANCE.

The subject of this biographical sketch is perhaps the oldest among those who answer questions for our department of "Queries and Replies," being nearly 70 years of age. His experience as a large honey-producer makes his bee-writings, though very few, of particular interest and value. It is with pleasure then that we present the following short story of his life, which was written for the "A B C of Bee-Culture," by Dr. C. C. Miller:

Edwin France, of Platteville, Wis., is noted as a producer of extracted honey on a large scale. He was born in Herkimer county, N. Y., on Feb. 4, 1824. His father was furnace-man, molding and melting iron ; and, having a large family to support, had difficulty in making both ends meet. At the age of eight young Edwin was sent to live with his mother's brother, returning home at 16. He then served an apprenticeship of four years at the furnace, when his father bought forty acres of timber, which they cleared up as a farm, working at the furnace winters. At the age of 24 his father died, leaving him the main stay of the family. He gave up the furnace, and worked part of the time making salt-barrels in summers, and cutting sawlogs in winters. About this time he got, and kept on this little place in the woods, a few colonies of bees.

At the age of 32 he took the "Western fever," and settled on a 200-acre prairie farm in Humboldt county, Iowa, marrying and taking with him a wife, leaving his mother in care of her older brother, a single man, amply able to care for her. Here again he kept a few



EDWIN FRANCE.

bees. He lived here six years, farming summers and trapping winters, when the breaking out of the war brought prices of farm products down to a ruinous point, and he went on a visit to Platteville, Wis., intending to return when times brightened. Desiring some employment, he answered an advertisement, "Agents wanted, to sell patent bee-hives," and was soon the owner of the patent for his county. He made the hives himself ; and as at that time

nearly every farmer kept bees, the business paid well, and he soon bought two more counties.

In his trades he got some bees, his starting-point as a bee-keeper. These he increased until in 1871, when he went into winter quarters with 123 colonies, bringing out 25 in the spring, and 14 in the spring following. Enlarging his hives, and studying the wants of the bees, led to better success, reaching 500 colonies in the spring of 1888, kept in six apiaries. In 1886, from 395 colonies, he took 42,489 pounds of honey, increasing to 507. In 1885 his 320 colonies averaged 113 pounds each, and his 410 colonies in 1887 averaged 12 pounds each. He owns 11 acres in the city limits of Platteville, devoted to garden truck and berries.

Mr. France and his son do all the work, except during a few weeks in the busy season, when he hires eight assistants from 12 to 18 years old. The whole ten go to one of the different apiaries each day, making a sort of picnic, and returning at night. Mr. F. has not written much for the press; but what he has written bears the marks of ripe experience.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Report of the Texas State Bee-Keepers' Convention.

(Continued from page 622).

SECOND DAY—CONTINUED.

Dr. W. K. Marshall gave an interesting lecture on the subject of

Primitive Bee-Keeping in Texas.

He described the method of making straw-hives, and the appearance of them. There were no lumber mills here then; after saw-mills were established, and box-hives were made of lumber, every bee-keeper looked upon his possessions with pride, and the hives were constructed according to the taste and mechanical genius and notions of their maker.

He was first to attempt an improved hive in his vicinity; it was so constructed that he could remove one-half, with the idea that he could increase his colonies without the natural process of swarming; his first experiment was a success, and he thought he had *the* hive—it was perfection; but he was discouraged by the failure of his next experiments to succeed.

His first impression, when he began the study of bees was, that the queen was the ruler, and that the drones laid the eggs; on this he was about to establish a beautiful theory, when he discovered that he must be mistaken; then he concluded that the workers laid the eggs. His first movable-frame hives were made with top-bars, without side or bottom bars, and he had often wondered why he had not discovered the movable-frame before Mr. Quinby did.

When Quinby had perfected his first movable-frame hive, soon many inventions made to sell to the unwary, by persons totally ignorant of even the primitive management of the honey-bee; these "patent gums" were sold by men equally as ignorant as their inventor; and after the bee-moth made its appearance in the West, which was back in the '50's, nearly 50 years after it had been introduced into this country from Europe, the hive vendor had moth-proof hives, moth traps and various arrangements to prevent the moth from entering the hives and "destroying the bees" (?). This new feature had the effect of procuring new victims, increasing the patronage, and bringing forth new inventions fashioned to suit the theory of the inventor, on moth questions. Mr. Quinby was the first man to solve this moth question, and his public assertion that strong colonies were able to protect themselves against the ravages of the moth, was received at first with derision.

Dr. Marshall had used the Quinby frame seven inches deep, and secured more honey, and induced the bees to enter the upper chamber with less difficulty than with the deeper frames. His experience is that a shallow frame is the best. He exhibited a Langstroth frame six inches deep, which he was willing to endorse as the most practical frame, and he was thoroughly convinced that ten frames of this size was large enough for the brood-chamber, and if he were going to engage in the business again,

for either comb or extracted honey, he would use a Quinby frame, six inches deep.

The progress that bee-culture has made since he began the business, has been greater than it could ever be during our time, or that of the present generation.

On the subject of adulteration he boldly and severely criticized Mr. Perrine to whom he sold 20,000 pounds of pure honey, which the purchaser adulterated and sold.

He explained the method of adulterating comb honey, and recounted an experiment he had made with glucose. He took glucose one-third, and extracted honey two-thirds, put his bees in confinement, and soon had all his beautiful combs filled with nice honey (?). It killed all his bees within three weeks! From this he concluded that if it killed his bees in three weeks, it would kill a man at once, if he ate it.

He paid a tribute of respect to the honesty and integrity of the bee-keepers of Texas, more especially to the members of the Texas State Bee-Keepers' Association; he praised the zeal and courage exhibited during the bad seasons, and insisted that we must not become discouraged when the seasons failed. He and Bro. Graham had been in the habit of selecting new men, who, in their opinion, would make successful bee-keepers; some they would conclude were in the business for the money—money without work—others were willing to work, and learn the ways and nature of the bees, and to study the best methods of practical management; they had never been disappointed, as the former class had long since given up the pursuit, and drifted into other employment, while the latter were among the brightest lights in bee-culture to-day.

To make bee-keeping the most profitable, we must curtail expenses, get the cheapest hive and fixtures, which will give the easiest access to the hive and manipulation of the bees, and the best results.

He has been working for some time to institute a bee-keepers' experiment station at the agricultural college, which shall provide for a lecturer on practical and scientific bee-culture, in connection with a sufficient apiary to illustrate practical bee-keeping. While he had been able to accomplish but little toward it, yet he had received considerable encouragement.

A rising vote of thanks was tendered to Dr. Marshall for his interesting and able lecture.—(*Concluded next week.*)

The Right Time to Transfer Bees.

The question is frequently asked, "When is the best time to transfer bees from box to frame hives?" To this the usual answer is, "Fruit-blooming time." The books say so, and we all have been taking it for granted that it is true, but my experience now says it is not true, and that we have all been making mistakes in transferring at that time.

The reasons given for transferring at that time are, that there are fewer bees and less honey then than at any other time. It is true there are fewer bees, but it is not true that there is less honey. My experience is that between fruit-blooming and clover-blooming, bees consume stores rapidly in brood-rearing, and that they have less stores at the beginning of clover-blooming than at any other time; and the fact that there are more bees then than at fruit-blooming is a strong point in favor of transferring at that time.

The more bees there are when transferred, the quicker they will build up, and the better it is for them.

Last spring I transferred a number of colonies in fruit-blooming time, and some at the beginning of clover blooming. None of those transferred in apple-blooming built up in time for the honey-flow, but nearly all of those transferred at the opening of clover bloom stored a surplus. The reasons for the difference are apparent. There is always some loss of brood in transferring, and a check in the work of the queen. The brood and eggs at fruit-blooming time make the workers on white clover, and if destroyed in transferring at that time, the loss is felt in the honey crop.

The brood and eggs at the beginning of clover bloom do not make workers in time for the honey-flow from that source; and their loss is no loss to the honey crop, but rather a gain, for they would be consumers and not producers. If bees and not honey is the object, better results can be obtained by transferring at the beginning of clover bloom.

H. F. Coleman.

Sneedville, Tenn.

Handling the Gentle Hybrids.

Every authority I ever consulted sets down the hybrid as a vicious bee. I have not found it so. I have now handled all kinds, from those that the traces of yellow bands were so slight that I just called them blacks, up to the light-

est 3-banded, and while the Italians are the quietest, and blacks the most nervous, the hybrids sting the least with me. In fact, I have had one colony of hybrids that never would, and never did, sting at all. But after they swarmed and reared a new queen, I found a different "breed of cats" in that hive. Now they know when well used, and can sting if they want to.

The blacks have a way of stinging those that go near the hives, especially strangers, when they are not touched or molested; but when the hive is quietly opened, they are veritable cowards. The Italians are not frightened by opening the hive properly, so long as they can cling to the comb and protect the brood; but let the day be cool or cloudy, with no honey coming in, and these "gentle butterflies" will get in more stings to the second than any hybrid or black I ever struck, as they go straight to the mark with a perfect abandon. Of course I have tried to see how far I could go with them, but any one who would handle bees at an improper time, or in an improper way, deserves to be stung.

I now find all so gentle and easily managed that I wonder that it took me years of study and months of practice to get sense enough in my head so that the hair thereof would not rise right up at the thoughts of opening a bee-hive.

I wish some of those who have nice queens to kill because their workers are cross, would let me know, and send them to me; or that some one who has Cyprian queens would advertise in the BEE JOURNAL. I do believe that if I could get some bees that would defend their hives from thieves here in Florida, in the summer when I am gone, I should be enabled to become an extracted honey specialist in Florida, as well as comb honey in New Hampshire, and pay up a life-long subscription to the AMERICAN BEE JOURNAL.

Grasmere, Fla. E. B. WHIPPLE.

Amerikanische Bienenzucht is the name of a bee-book printed in the German language, which we now have for sale. It is a hand-book on bee-keeping, giving the methods in use by the best American and German apiarists. Illustrated; 138 pages; price, postpaid, $1.00. It is just the book for our German bee-keepers. We club it with the BEE JOURNAL for one year, for $1.75.

Have You Read that wonderful book Premium offer on page 643?

The Best Position for the Entrance to a Hive.

Query 872.—1. Which is the best position for the entrance to a hive—at its SIDE, so the bees on entering pass under the middle of the bottom-bar of the frames, or at the end of the hive, so the bees pass under the END of the frames? 2. Why?—J. B.

1. No difference.—J. P. H. BROWN.

1. I don't know.—J. H. LARRABEE.

1. The end. 2. Reason it out yourself.—WILL M. BARNUM.

1. I do not think it makes any difference.—MRS. L. HARRISON.

1. I have the entrance at the ends of the frames.—G. M. DOOLITTLE.

1. If there is any difference, I have not learned it.—P. H. ELWOOD.

1. It doesn't make any difference. Our bees work in both ways.—E. FRANCE.

1. Bee-keepers are not agreed on this. 2. Try both ways, and see for yourself. —A. B. MASON.

1. The bees enter at the end of the frames, as the passage-way is clearer.—J. M. HAMBAUGH.

1. I have tried both kinds, and can see no difference, yet I prefer the entrance at the end of the hive.—H. D. CUTTING.

1. I never could see that it made a bit of difference, though I have had both styles of hives side by side for years.—A. J. COOK.

1. At the end. 2. They can readily ascend any comb to dispose of the load brought in, and it affords better ventilation.—MRS. J. N. HEATER.

1. I believe it has been long ago decided that it makes no practical difference at what point bees enter a hive, so that the entrance is ample.—G. L. TINKER.

1. I prefer to have the bees enter at the ends of the frames. 2. This ar-

rangement brings the center combs more directly in range of the entrance. Another reason is, that in winter the bees will cluster near the entrance, and from that position, if the entrance is at the side of the combs, the stores are not so accessible from the position of the cluster.—M. MAHIN.

1. I have used a good many both ways, and I never observed any difference in the prosperity of the colonies. 2. I prefer, though, the entrance always at the end of the frames, because I do not want to level the hive both ways.—EUGENE SECOR.

1. At the end. 2. Because the bees, having a tendency to store their supplies at the opposite side or end from the entrance, can, in the winter, move towards their supplies much more conveniently *along* the frames than *across* them.—R. L. TAYLOR.

1. It does not make very much difference, and perhaps both plans have advantages. 2. The side-opening is best in cold, stormy weather, and the end plan is perhaps the better when bees are gathering honey. This is, however, an "open question."—C. H. DIBBERN.

1. I do not see why it would be any difference. But I think the entrance should extend the full length of the side or end on which it is, as we have noticed the bees always enter at the point nearest opposite to where they expect to deposit their load.—JAS. A. STONE.

1. I dont think it makes any great difference. What Gallup hives I have, the entrance is under the sides of the frames, and in the Langstroth hives under the ends. 2. Some claim that the wind has less effect on colonies where the entrance is at the side of the frame. —S. I. FREEBORN.

1. We prefer an end entrance. This question has been much debated in Europe, the frames with opening on the end being called "cold frames," while those with opening on one side are called "warm frames." 2. There are arguments *pro* and *con* to both methods. —DADANT & SON.

1. I use the entrance at the end of the hive; I don't know that it possesses any advantages over a side entrance. 2. As I use a Langstroth hive, I prefer the entrance in the end; the hives present a handsomer appearance, and are more convenient to handle when the entrance is so placed.—J. E. POND.

1. At the end. 2. It is better for various reasons, that the hive should have a slight slant toward the entrance. This is not practicable with the entrance at the side. There is better communication between the entrance and all parts of the hive, and it is much easier to work with a hive having the entrance at the end.—JAMES A. GREEN.

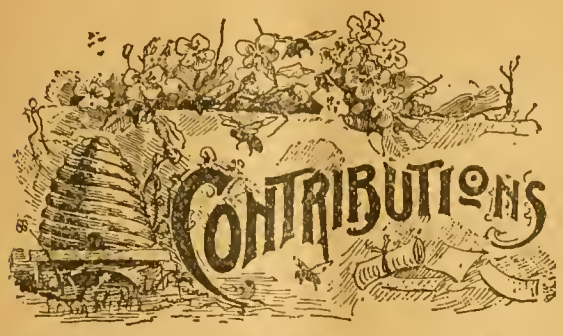
1. I have hives in the yard now that the bees enter both ways, and I cannot tell any difference. In fact, I do not know as it makes any particular difference when the bees enter, but I have a notion that I would rather have them enter at the ends of the frames.—MRS. JENNIE ATCHLEY.

1. I don't care whether it's at the side or end of the hive, so it's at the end of the frames—what's called the cold arrangement. 2. For one thing the bees get to all parts of the hive more readily, but enough is that both ways have been tried, and nearly all agree on the cold arrangement. You can use just which you like.—C. C. MILLER.

1. The end. 2. All hives should slope toward the entrance, and it would not be very convenient to have the entrance in the side. Then it throws the center of the brood-nest farther away from the entrance, which is very important in early spring. The bees also like to build their comb pointing to the entrance. We assume that the frames hang lengthwise of the hive. There are some people who are content to handle a lot of short frames. They might disagree with me. —EMERSON T. ABBOTT.

1. I prefer the entrance at the end of the frames. 2. That "Why?" is mighty short, but the answer must be long to cover the grounds, and I can't go over the points here. It is sufficient to point out the fact that when bees are at work, passing in and out of the hive, and it becomes necessary to open the hive—as it often does at such times—it retards the work, and bothers the bees more to open "gaps" in their nest *crosswise* than to open them *lengthwise*. This is only one point.—G. W. DEMAREE.

Bee-Keeping for Profit.—The second edition of Dr. Tinker's new book is now ready to send out. It gives his New Management complete, and three years of added experience in its use by himself and other bee-keepers. Several new illustrations have been added, besides much new matter in regard to the use of perforated zinc. Price, 25 cents, postpaid, or clubbed with the BEE JOURNAL for one year for $1.15.



Spring Uniting of Bees Clearly Explained.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

A correspondent writes: "My bees are suffering from spring dwindling, so that my colonies are quite weak, and will not be strong enough to work to advantage when the honey harvest arrives. What shall I do with them? Shall I unite them now, or what shall I do? Please reply through the AMERICAN BEE JOURNAL."

Several years ago, when I wished to unite bees that were weak in the spring, I did so early in the season, as nearly all the writers of that time said I should do it then, as two of the weak colonies would make one strong one. That the uniting of two weak colonies to make one strong one would be a profitable undertaking, no one would deny; still, that uniting must make the *one* better than each of the *two* would have been when the honey harvest arrives, or we would better not touch them.

After practicing the plans as given for a year or two, I became convinced that colonies thus formed were no better at the end of two weeks than each one would have been if left separate. I have put as high as seven remnants of colonies together in April, the seven making a good colony at the time, and in a month all were dead. After coming to the conclusion that I could not unite bees with profit early in the spring, I adopted the following plan, which has proven very successful with me:

About the middle of April, some cool morning, I looked over all of my bees by removing the cap and raising the covering a little, so I can see how strong in bees the colonies are, and all that do not occupy four spaces between the combs are marked, and the first warm day are shut on as many combs as they have brood in, and a division-board placed in hive so as to contract it to suit the size of the colony. Honey enough is provided to keep them amply for two weeks, and the rest of the combs I store away for safe keeping. The entrances are contracted so as to let but one bee pass at a time, for the smallest colonies, while the larger ones do not have more than an inch in length of entrance given them.

The next work is to increase the brood as fast as possible in these small colonies. I keep them shut on the combs first given them, until they are filled with brood clear down to the bottom, before they are given more room. As soon as this is accomplished, I give them a comb of honey having the cappings to the cells broken by passing a knife flatwise over them, placing this frame of honey between two full combs of brood. In about a week this comb will be filled with brood as full as the others.

I go over them once a week in this way until I have five frames of brood in the strongest, when I take a frame of brood just hatching, from those having five full frames, and give it to the next strongest, say one that has four frames, putting a frame of honey fixed as before in the place where it came from. Thus I keep working until all of them contain five frames of brood, which should occur from the 10th to the 15th of June, in this locality.

I now go to hive No. 1 and open it, looking the frames over until I find the one the queen is on, when it is set outside of the hive, and the four remaining frames, with all of the adhering bees, are taken to No. 2. I next spread apart the frames in hive No. 2, so as to set the four frames brought from No. 1 in each alternate space made by spreading the frames in No. 2, when the hive is closed. In a few days this colony is ready for the surplus arrangement, and will eventually make as good a colony for storing section honey as the best of the stronger ones—at least such has been my experience so far. I have never known the bees to quarrel, nor a queen to be harmed by this plan of uniting, as the bees and brood are so completely mixed up that they do not know what to fight about.

But to return to No. 1, where the frame with bees, queen and brood were left standing outside of the hive: I now place this frame back in the hive, and put an empty frame with a foundation starter in it beside the same, adjusting the division-board, when I have a nucleus to be used for any purpose I may wish. Many of the old bees carried to hive No.

2 will return, thus making the nucleus a strong one, which will fill the empty frame with nice, straight worker-comb in a few days, and still others, if the queen is left long enough. By the way, let me say that such colonies will build at a less expense than is required to purchase and fill frames with comb foundation, thus a saving is made along this line.

If I wish no increase of colonies during the season, I serve the whole apiary as I did Nos. 1 and 2, beginning early enough to be sure that none have brood in more than five frames. By putting sections on the strongest just before the apple-blossoms appear, quite a few sections are often filled from this source, as the bees must store honey in the sections if anywhere when shut on five frames.

It will be seen that I use nine frames in a hive, but the plan is the same with any number of frames. This having every frame in a hive crowded to the fullest capacity with brood two weeks before the honey harvest has much to do with a good yield of honey. This is the condition all should aim to have their colonies in, and in the above I have tried to tell how it can be done even with the weaker colonies.

Borodino, N. Y.

Terrible Experience with Ants in Hives.

Written for the American Bee Journal

BY E. S. LOVESY.

Ho, for something to exterminate those everlasting ants! I write this hoping that some of our bee-keeping friends may know of something that will exterminate those pests. If any one has a remedy that will successfully accomplish this, he will receive the thanks of many bee-keepers in this section. I would be willing to pay liberally for a recipe that will insure their destruction. With me it has been a long and sore struggle, and many times it has looked doubtful which would win, myself or the ants.

Winter losses and the destruction by those little tormentors have been the only serious drawbacks we have had in this locality. They destroyed 8 colonies for me last season, besides weakening others. They go all over and all through the hives. We have had them by the hundred million. I could not take hold of a hive, box or can, that had honey in, but I would have them running over me by the hundred, and sometimes 10 to 15 nipping me at once. The only thing a person can do is to drop everything and fight. People may not swear under such conditions, but they would be more than human if they did not think it.

In June, 1892, it looked as though they might destroy every colony in the apiary. The last two colonies that I lost on Tuesday, I saw the ants were working in them, and I washed them off with coal-oil, and thought possibly the bees might get along all right; but on the Friday morning after, although they were both strong colonies, there was not one bee left!

As far as I can discover, the ant bites the bee, and sometime it dies around the hive, but the most of them fly off with the ant, and never return. Sometimes, when I lift the hive-cap off, there will be more ants than bees in the hive. The bees seem to be afraid of them, and when the ant takes hold of the bee it usually rises and flies off, and thus they soon clean out the hive.

I have tried everything I could think of, or hear of—borax, salt, blue vitriol, green coperas, salt petre, Paris green, and coal-oil; of those I found coal-oil to be the best, but if they once get started in the hive, it will not keep them off unless you pour it on two or three times a day.

But finally I built stands from 12 to 18 inches high, then I got a lot of tar and painted them with the tar, which keeps them off. I then went to fighting them on the outside, but at times I almost felt like giving up.

One day I felt very discouraged, when a friend came along—a friend, oh, dear, no! "Well," says he, "you need not worry about those ants. I can tell you what will kill off every last one of them." I felt for a moment like shouting, "Halleluia! is deliverance so nigh?"

Says he, "Take a bit of that vitriol, or some carbolic acid, and pry their mouths open, and see that they swallow it, and it will kill them every time!"

Please do not think me ungrateful when I say that I did not even thank him!

All are probably aware that here in Utah we raise our crops by irrigation. I had a potato patch in my garden last year, which was one solid ant-bed; they seemingly liking the loose soil and the shade of the potato tops. I took a large hoe and the irrigation water once a week, for 3 weeks, and mixed the ants' eggs and soil like mortar. This process seems to be too much for them, for they cannot get out of it. I believe that I

destroyed in this way over two bushels of ants and eggs, and where we could use it we have destroyed them with boiling water. Chickens also pick up many of them, but it would be very desirable to get something that would clean them out entirely.

They are small, black ants, about 3/16 of an inch long. It is impossible to keep them out of a jar or can of any kind, unless it is tightly corked, or a cloth tied around it. Ours is the worst locality known for these ants.

Salt Lake City, Utah.

Some Suggestions Against Discussing Honey Adulteration.

Written for the American Bee Journal

BY A. C. TYRREL.

The discussion about the adulteration of honey, in my opinion, cannot be condemned in too severe measures.

The idea of bee-keepers advertising to the world, through the bee-papers, that honey is adulterated, is preposterous and absurd.

How indignant we were when a certain Professor gave vent to his little pleasantry (pleasant lie), about the manufacture of comb honey from paraffin, and language was not forcible enough to express our contempt for the author thereof; but what has already been published on the above subject will be more damaging to the pursuit than all that Prof. Wiley ever said or published upon the subject of adulteration.

Take a fine selection of *pure* comb and extracted honey to your merchant, and say to him: "In this degenerate age comb honey is filled with sugar syrup, and the extracted article is largely glucose—let me sell you some *pure* honey." Will he buy? No. But with a little modification, that is just what many illustrious honey-producers are saying to the world—giving it the widest publicity possible. Is it because they want to say *something?*

In the name of common-sense (if there is such a thing) how can we educate the "dear people" to eat honey—no, our manufactured (?) stuff? Give us the names of the persons or firms putting the manufactured material on the market.

Who ever saw a sign over a church door bearing this strange device?—"Do not enter here, and partake of the blessings of Christianity, *for* thousands of so-called professing Christians are base deceivers, hypocrites." Whoever read in twelve consecutive numbers of church periodicals a caption in large head-lines like this?—"Another good brother strayed from the fold." Are the names and addresses of church members who have been guilty of selling shoddy goods and adulterated articles of commerce, well knowing them to be such, published to the world? and do they seek to build up the churches, to induce sinners to enter the fold, by continually deploring the wickedness of the flock? I think not. Bee-keepers appear to be trying to build up a business by cussing the cussedness of other bee-keepers.

Did you ever notice the *weak* points of a mowing-machine brought prominently before the would-be purchaser by the manufacturer or agent? Did you ever see all the large berries put in the bottom of a basket of fruit offered for sale? Did you ever see all the wormy apples placed on top of the measure? Did you ever see a farmer put all his *best* wheat in the bottom of his wagon-bed, the small potatoes on top of his load brought to market? I guess not. Did you ever see eggs in a grocery labeled: "These eggs are not fresh." Nay, verily. Did you ever see at your green grocers, fruit labeled, "Picked last week;" stacks of pails of gelatine called "raspberry or strawberry jelly?" Yea, verily.

I am at a loss to know why at this time bee-keepers are singled out and set up as a target to be beaten down and ruined by the poisoned darts of their enemies, whilst others guilty of graver offences are not molested. Granting, for argument's sake, that syrup *is* sold for honey, it is exasperating to us who have never sold an ounce of honey not *strictlly pure*, to be even suspected of adulterating our honey. I repeat again that the evil can never be righted, for prominent bee-keepers have *confessed* that honey *is* adulterated—no more convincing testimony can be produced in court.

How can we best protect ourselves? By placing our bee-papers under lock and key, and not allow our neighbors to read them as formerly. We can sell no more bees, for *honest* men will not compete with those who can produce an inferior article at *half* the cost. I think Eastern producers must feel happy (?) over the havoc they have wrought, if all they have heretofore published is *true.*

Man never has, nor can he ever induce bees to store any substance in combs in the least injurious to the system in sufficient volume to pay for the labor of pre-

paring the decoction. I speak advisedly when I assert that if bees had free access to a barrel of any kind of manufactured syrup, so tainted with sulphuric acid or anything deleterious to our stomachs, they would not store the stuff in the brood-chamber or supers. Why not? Because the entire apiary would become diseased and die before half the barrel had been carried away.

If honey *is* adulterated, charge the blame to the extractor; this has made it possible; it is one invention that never should have been invented.

The Paddock Pure Food Bill is all right in its intent and purpose, but it never can be enforced without employing a horde of salaried officers to carry out its provisions. We have a law in Nebraska providing for the inspection of coal oil, but the vilest oil is sold all over the State with impunity. Of the making of laws there is no end; laws for the regulation of the liquor traffic, and to prevent adulteration; regulating and stamping out foul brood, and for the protection of our apiaries. We have laws for the protection of society, and certain criminals are speedily punished (if caught).

In certain cases we can make use of the *damn um writ* (*Ad quod damnum*), if our rights are infringed upon. We have laws, good, bad, and indifferent, but they cannot be enforced as intended. What every State is in need of, is fewer laws, and the better enforcement thereof.

If the Paddock Bill becomes a law (and I hope it will), let the provisions of the Bill cover every article manufactured, imported and sold in this country, labels attached to such articles at the producers expense, something like the following:

"These Eggs have been Set on Two Weeks."

"This Milk Contains Water."

"This Cow was 12 Years Old at the Time of Her Demise."

"This Pig was a Hog Once on a Time."

"This *Veal* was 7 Years Old."

"The Wormy Apples are at the Bottom of this Barrel."

"This Butter, Now Sold at 50 Cents, was Worth but 6 Cents Per Pound when Packed."

"This Pepper is Half P's."

"This 'All Wool' Suit is Half Shoddy."

"This Undershirt is Half Cotton."

"This Mustard is Mixed with Corn-Meal."

"This is Glucose Syrup."

"This is Not Cider Vinegar."

"This Baking Powder is Composed of Ammonia and Other Vile Drugs."

"This Chicken is 5 Years Old."

"This Beer is Made of Aloes, Tobacco, Burnt Umber, and a Little Malt."

Now, Mr, Editor, I hope you will publish the foregoing in the interest of *honest* bee-keepers.

Madison, Nebr.

[Well, Mr. Tyrrel, we have now published your article, but, for the life of us, we don't see how *keeping still* whenever fraud, corruption and murder are going on, will help matters any. Some one has said that "Silence gives consent," and unless we want to be counted on the side of evil-doers we must speak out against them and their deviltry.

When some one within the fold has been pretty clearly suspicioned as guilty of criminality, we think that at least those immediately associated with him should be warned of his character, as well as the outside world; especially so if the world is to be protected, and also those within the fold. We care not whether you apply this to church, or other organization or fraternity.

We most assuredly believe in denouncing evil at all times, and in all places wherever found, no matter whether it strikes friend or foe; if friend, so much the worse for his hypocrisy. *We* don't care to have any "friends" among evil-doers. Again we can safely fall back upon our motto—"Do right and fear no one"—and hope, and work, and pray that all others may also adopt it as their rule in life.—Ed.]

Some Profitable Lessons from "the Blessed Bees."

Written for the "Iowa Homestead"

BY EUGENE SECOR.

This is the time in the year when the enthusiastic novice in apiculture fondly listens to the "hum, sweet hum," of the cheerful, sportive bee, and imagines that this old world was never quite so inviting before. The earth, that has been in icy chains for half a twelvemonth, is emerging from its prison-house of snow and putting on its emerald gar-

ments. As he watches the business-like movements and ceaseless activity of the denizen of the hive, he pictures to himself large profit from her proverbial industry. He mentally clothes the earth with flowers, and sees them overflowing with nectar for the benefit of his winged pets, and, therefore, for his own enrichment.

The music of a well-stocked apiary is, at this season, irresistibly fascinating. After six months of death-like stillness one must be devoid of the finer emotions of the soul not to be charmed by the bursting buds, the singing birds and humming bees—all evidences of the earth's resurrected and rejuvenated lifelessness.

Performing her part in the yearly recreation, the bee leaves her home nest these bright April mornings, as though born with a will to accomplish something. She darts up and away as if a treasure had been discovered that must be forthwith appropriated or forever lost. She plunges into the first crocus blossom she finds, with an apparent determination to carry home all the wealth of its golden treasury before her ambitious and acquisitive neighbors have found its tempting morsel.

But her "sisters, her cousins and her aunts" are equally alert, equally enterprising. They did not stay at home to clean house, nor loaf around a well-filled larder when the choice of field work in the blessed April sun was offered them. So they are all abroad. The whole tribe of *Apis melifica* are out for an airing, except a few trained and trusty nurses that remained at home to look after the babies and keep up the spirits of the mother-bee. (For you know that neither business nor pleasure must tempt us away from the cradles—the hope and stay of future generations.)

My! what music they make! Their wings seem attuned to heavenly symphonies. Cris-cross through the pathless air they ride, each on her heaven-appointed mission, each doing her mightiest to fulfill the law of her being—work. What wonder if the observant student of nature catches inspiration from her matchless activity, her cheerful blending of labor and enjoyment, and paints the realities of life a little brighter hue in consequence of her example. What wonder if the grass looks greener, the skies softer and the flowers more lovely, as he notes her ready acquiesence in the work assigned her, whether it be for her own benefit or for generations yet unborn. Devotion to the good of her kind is her chief joy.

Sing on, ye happy workers! There's no music like the hum of contented industry. We hail you as evangels of the doctrine that labor is not necessarily irksome, nor a curse upon mankind—that work may be a blessing to the laborer, and productive of the highest enjoyment, if we accept it willingly and cheerfully as you.

May we, like you, do with our might what our hands find to do.

Forest City, Iowa.

An Experience in Keeping Bumble-Bees, Etc.

Written for the American Bee Journal

BY H. F. KEELER.

I am old in bee-experience, and know but little about the "bird" yet, but having given my attention extensively to a variety of bees not mentioned in the BEE JOURNAL, I feel constrained to give a brief description of them, and the net profits of their culture for a term of years.

About 50 years ago, my father being an apiarist in a limited way, I, by constant contact with the business, became interested in a small way, and at that time (circumstances change) I had sufficient caution to adapt my enterprises to my age and limited means, being about 10 or 12 years old.

Father's bee-house was constructed to contain more hives than he had, so I appropriated the balance without rent. This may have contributed somewhat to my success as an apiarist.

I constructed my hives of ½-inch stuff, 4 inches square, and 5 inches deep, inside measurement, standard size, with a ½-inch hole half way from top to bottom on the front side, as an entrance for the bees. After stocking up the bee-house with 8 or 10 hives—during my labors in spreading hay—I made it a point to locate the strongest and most profitable varieties of bee-nuclei for transfer at nightfall. I soon had my apiary complete by transferring the entire brood-nest to my hive intact, which was done by lifting the comb with honey and brood surrounded by an ancient mouse-nest, and placing it in my hive.

It should be remembered that the success of this work depends largely upon, 1st, so placing the comb in the hive that the cells point toward the zenith; 2nd, to place the bee-entrance as it was con-

structed, opposite the bee-entrance of the hive.

I confined myself to three varieties, to-wit: The large yellow 5-banded bee, which I found very domestic; the hybrid or 3-banded bee, which is smaller, better breeder, and much better honey-producer, but rather unpleasant to manipulate. I next secured several hives of the small black bee—great fighters, good honey-gatherers, and all in all the most profitable variety of the three. In my selections I was careful to secure only such bees as could take the nectar from red clover.

I kept no diary of my venture, but from memory I am able to give some of the many points of superiority in my bees, which are the "Bombus," or, as the unscientific herd would tell you that *Eupatorium perfaliatum* was Boneset; so they would tell you my bees were bumble-bees, but what's in a name? The points of superiority that are most marked in the Bombus and its hybrids over the Italian and its hybrids are these:

1st. The Bombus requires no preparation for winter, which is no small item of expense.

2nd. You have no old black comb to begin the next season with, which is undoubtedly a fruitful source of "foul brood."

3rd. The Bombus bee selects its own winter quarters, consequently you can extract your entire stock of honey every fall, as the comb is then free from young brood.

4th. The Bombus bees are strictly non-swarming. The time saved to the apiarist and worker bee in this particular is a fruitful source of revenue in a large apiary.

5th. The Bombus bee never gathers anything but the purest nectar, and from the choicest bloom.

Query—Would not the total annihilation of that filth gathering Italian, and the general adoption of the Bombus bee in its stead, be the most effective way to rid the bee-journals of that stale subject of adulterated honey, and of supplying the markets of the world with the pure nectar of the gods?

I have but little charity for the man of one idea. This trait led me of late to temporarily lay aside the work of Bombus bee-culture and substitute the Italian. The change necessitated a change in the construction of my hives, and now in my second boyhood I find myself trying to perfect a hive for the better accommodation of the Italian bee. After putting it to a thorough test the coming summer, I propose to submit it to the readers of the BEE JOURNAL for an opinion.

WINTERING BEES IN A GREEN-HOUSE.

I have converted my green-house, 10x24 feet, into winter quarters for my bees. I covered the ground floor with old leaves, then arranged my hives in a row through the center, put a stove in one end, and the entrance door in the other. The ground floor did not freeze the past winter, even near the door. The south half of the roof is covered with glass the same as for plant-raising in the spring, making it equally as light as for plants. Contrary to the light-excluding idea I have thrown on them all the light they might get if in their native tree or bee-hive out-of-doors, which I believe to be the correct theory. When they would begin to show any uneasiness, I would raise the hive from the bottom-board, clean it, then build a fire, dry out the hive and building, and give the bees a flight. They make the air thick with their gambols, but go home at night, after two days, and the hive and green-house are dry. I then clean out the litter, and replace it with clean, dry straw, and shut them up again. I gave them several flights the past winter, and in my next I will give you the result of my theory put to practice.

Anamosa, Iowa.

A Description of the New Crane Bee-Smoker.

Written for Gleanings in Bee-Culture

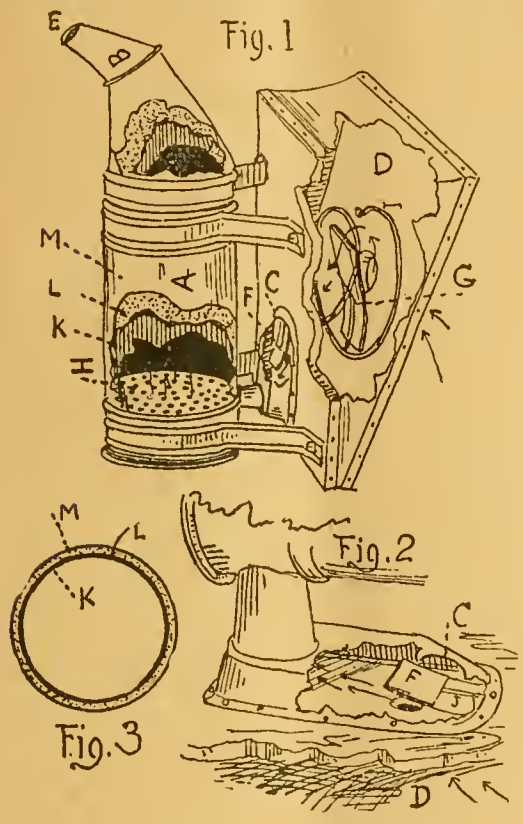
BY ERNEST R. ROOT.

In the illustration to be found on page 646, will be seen the outward appearance of the new Crane smoker, which shows that it is beautiful in design, and handsomely and well made. Indeed, it is the most expensive in construction of any smoker ever before put out. The bellows, to begin with, is made ample and substantial, having an inside spiral spring, J, Fig. 1. These springs have been carefully tested: and on an extensive test, with Clark smokers, we find them to be, to coin a word, unbreakable, and elastic. The boards are nicely finished on the outer surface, and the valves are adjusted with great care, each one being inspected before going out.

So far, the smoker presents no new ideas. The particular feature which Mr. Crane claims as his invention is the

check-valve F, in combination with C, Fig. 2, by which smoke is prevented from going into the bellows, and by which a strong concentrated blast is secured. Its details of construction are shown in Figs. 1 and 2. The particular valve is shown in F, Fig. 2. A stamped canal, C, covers the whole, and is perforated at C. A pressure on the bellows opens the valve F, and throws it tightly against the hole C, leaving no exit for the air to escape through the smoker-cup. The moment the pressure is released from the bellows, F drops down into position, closing the hole and leaving ventilation through C.

Thus it is that smoke cannot get into



New Crane Bee-Smoker.

the bellows, and thus it is that the full power of the bellows is fully conserved; and so strong is the blast, that, no matter how much fuel may be crammed into the cup A, the air has *got* to go through. In other smokers of this class, there is either no tube between the bellows and fire-cup, or else, if there is one, it has a sort of ventilating hole that soon becomes clogged up in consequence of the air passing back through the bellows. In the absence of a connecting tube, the blast is necessarily very much weakened when the smoker-cup is much crammed with fuel, because not all of the air is *compelled* to go through the cup.

Another feature is, that the smoker-cup and nozzle, up to the ring B, in Fig. 1, is lined with asbestos, L, and sheet steel, K, Figs. 2 and 3. The object of this is to prevent the bright tin surfaces from becoming too hot, and radiating heat. This does away with the use of projecting shields, that are in the way, and more or less unsightly. This asbestos and steel lining also prevents the inside of the cup from becoming too thickly coated with creosote; and it is needless to say, that the smoker will last longer thus lined, and that it will be much easier to remove and to adjust the cone B. The grate, I, Fig. 1, is secured in a bead near the bottom of the cup, and instead of having large perforations that let hot coals drop through more or less, the holes are very small—a trifle larger than that which would be made by a darning-needle through a piece of paper. In the old-style smokers, the grate-holes must be large to let the weak blast through.

The fire-cup itself is fastened to the bellows by means of very neat and strong folded-tin legs. The cup can at any time be released by means of four screws; so also, in a similar manner can the canal covering the special check-valve.

The new smoker presents also still another feature. The bellows is reversed, the large end being upward. But there would be no advantage in reversing the bellows were it not for the fact that the nozzle is *curved*, as shown in Figure 1. This makes is necessary to twist the hand out of the natural and easy position. By always holding the smoker in an upright position, a stream of smoke may be sent at right angles to the plane of the bellows, without disturbing the contents of the fire-cup, and this will avoid throwing sparks. A little practice in manipulating this smoker will show that this combination of bellows and curved snout is the thing. We will suppose that the smoker is standing on the ground. The hand grasps it in the natural way, brings the nozzle above the edge of the hive, and a couple of whiffs, without twisting the hand in the least, sends a stream of smoke over the frames.

This smoker has been submitted, in its less perfect form, to Dr. Miller and others. The Doctor was greatly pleased with it, as were also the others.

"Bees and Honey"—see page 643.

Building Up Colonies for the Honey-Flow.

Written for the American Bee Journal

BY R. F. HOLTERMANN

The late meeting of our county bee-keepers' association and an address upon the above subject by the able President of our Ontario Bee-Keepers' Association, Mr. F. A. Gemmill, of Stratford, Ont., has brought several questions before me. Being in the chair upon that occasion, I was unable to express my views; the subject being seasonable, permit me to say a few words.

There is nothing like natural stores for bees during the spring of the year—plenty of honey given the previous autumn is the best way of feeding a colony in the spring; but if there is not an abundance of honey in the hive, and sealed combs of honey cannot be given, I should say, give the weak colonies sealed stores out of the strong, and feed the strong colonies a syrup made of equal parts of sugar and water, with the slight addition of honey. The honey fed should first be well boiled, particularly is this advisable if the honey is not your own, but even if it is, you may have foul brood in the apiary without knowing it, and when with a little care risk may be avoided, do so.

To feed from the top by means of a Hill or Gem feeder, is probably the better way. Mr. Gemmill cuts a hole in the quilt, and upon this places a piece of wire-cloth nailed on, and a rim upon this; the feeder is inverted, and the bees can take the food through the wire-cloth, but cannot fly up when the feeder is removed for the purpose of refilling.

No colony can be too strong for the honey-flow, or too early. If the bees cannot remain contentedly in the body of the hive, I put on a super, allowing the queen full swing in it, and if this is not sufficient, I add supers. At the beginning of the honey-flow the queen can, by changing a few combs, be confined below the queen-excluder, in the body of the hive. Any surplus from spring blossoms is better consumed in brood-rearing than to extract it and throw it upon the market at a low figure.

Unless one colony is queenless, it is perhaps not well to unite—sooner build up weak colonies, and near the honey-flow unite them, or the brood. To build up weak colonies at the expense of the strong, should never be dreamed of.

I would like to have all colonies packed above during the spring, and until all danger from cold nights has passed away; but it is quite a trouble and expense, and I cannot always do as I would like to do. This spring I have used on top, first the sealed cover, then one or two thicknesses of paper, finally a cushion filled with absorbents or mineral wool. I have an idea, if the cost is not too great, and I think not, that this article has a great future before it, for the purpose of winter and spring packing of bees. The above protection, with a properly regulated entrance, is all I give a strong colony.

The weaker ones I try to pack in winter cases, and in this way help them to make the best use of the warmth they produce. Some would argue that when a colony is weak in the spring, the indications are that the queen is a poor one. There can surely be no reason why this should be the case. There is no necessity for destroying such a queen—she may be good, and she may not, and the question should be tested before coming to a conclusion.

Many, very many, have failed to make a success of spreading brood. No novice should attempt such until settled warm weather, and even then it should be undertaken with caution. As a rule, the colony will enlarge the brood-chamber quickly enough, but there is a time when, to a certain extent, spreading brood can be practiced with success. The best method is to turn the combs on the outer side of the cluster; about that is the sides towards the center of the hive turned towards the outer side. By so spreading it is done gradually, and no great harm can result.

Brantford, Ont.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

May 25.—Capital, at Springfield, Ills.
C. E. Yocom, Sec., Sherman, Ills.

June 16, 17.—S. E. Kansas, at Bronson, Kans.
J. C. Balch, Sec., Bronson, Kans.

Oct. 11, 12, 13.—North American (International), at Chicago, Ills.
Frank Benton, Sec., Washington, D. C.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

The Soldier's Grave.

Written for the American Bee Journal
BY C. J. ROBINSON.

Breathe not a whisper here :
The place where thou dost stand is hallowed ground ;
In silence gather near this upheaved mound—
Around the soldier's bier.

Here liberty may weep,
And freedom pause in her unchecked career,
To pay the sacred tribute of a tear,
O'er the pale warrior's sleep.

That arm now cold in death,
But late on glory's field triumphant bore
Our country's flag ; that marble brow once bore
The victor's fadeless wreath.

Rest, soldier, sweetly rest ;
Affections gentle hand shall deck thy tomb
With flowers, and chaplets of unfading bloom
Be laid upon thy breast !

Richford, N. Y.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Wintered Without any Loss.

My bees wintered well the past winter with no loss. The first pollen they got this spring was on April 3rd. We had a big snow to day, and the hives are almost covered up with the snow, which is six inches deep, on the level. G. W. Nance.

Anthon, Iowa, April 26, 1893.

Lost Only One Colony.

The bees here are nearly all blacks, and mostly in box-hives, so of course they store very little honey. Mine are Italians in Simplicity hives. They did not do much good last season, as it was too wet. A great many bees have died here the past winter. I wintered 18 colonies with the loss of only one, on the summer stands, some in chaff hives, and others packed in chaff. I could not keep bees without the BEE JOURNAL. WINCHESTER RICKEL.

Burket, Ind., April 25, 1893.

No Surplus Honey Last Year.

No surplus honey was obtained here last summer. With all the best flowers in bloom, I had to feed to get drones out to fertilize queens. While clover, basswood and Alsike were all blooming at the same time, yet not a colony was in the upper story. I have been reading the BEE JOURNAL for 22 years; here one writes, "Clover is all right." Which kind? Where is the clover, in his garden lot, in a pasture, or is it every place?

Except Dodge and Washington counties, where white clover is grown for seed, the outlook for this year is that it will take almost a whole train to take it to market. It yields from 2 to 11 bushels per acre, and sells at from $4.50 to $10 per bushel. Fully a fourth part of all the soil is left with this clover this year. The fields look snow-white in June, till July. Alsike is crowded out on account of spoiling the other seed. What this will do, is not in our power to foretell yet.

What kind of bees are the most enduring in this hard time? I say of 8 Cyprian colonies, 6 are up with bees and brood, while all others seem to be losing in strength. I wintered 44 colonies out of 47 the past winter. JOHN H. GUENTHER.

Theresa, Wis., April 29, 1893.

Stored but Little Surplus.

My bees did not store much surplus honey last year. Over one-half of the bees died the past winter in this part of the county. One of my neighbors, who has been in the bee-business for a number of years, had 65 colonies that he thought were in good condition for winter, but he lost all but 12 or 14 of them. I put in 30 colonies into the cellar, and they came out all right. I lost 3 colonies out of 10 in double-hives, that I left on the summer stands. Winter before last I put 43 colonies into the cellar, and lost one.

D. B. BLAIR.

New Providence, Iowa, April 24, 1893.

Mrs. Smith Lends a Helping (?) Hand.

I notice some reports by lady bee-keepers in the BEE JOURNAL, and as I come pretty nearly being a bee-keeper, I thought I would write for the benefit of some bee-keepers' wives who may know no more about bees than I did. Well, what I do know I have learned by experience.

My husband has been in the bee-business for four years, and has met with success so far. He takes the AMERICAN BEE JOURNAL, in which I often read a little, but thinking there was not much to learn, I thought I might assist him some. Well, yesterday (April 12th) in the afternoon I had a chance to try it.

Mr. Smith carried out on the summer stands a few colonies, and then he went away on business. A very hard wind came up, and took the cover off from one hive, also the oil-cloth. Thinking that was not a very pleasant way for bees to remain, I

thought I would now start to work among the bees. So I went out, feeling quite brave. I walked right up, and tried to put the cloth on, but, oh, you should have seen those bees all come out of that hive as if ready to swarm, and after me! Well, I can assure you it did not take me long to get into the house.

After fighting a while with those that were bold enough to follow me right into the house, I thought I would not be a coward, but would try it again. So I started, feeling not quite so brave as before, but better fixed for a fight, having enough wrappings around me, and a large overcoat in my hand, thinking that if I could not cover them with the hive-cover, I would throw that coat over the whole business, and have them in safe and comfortable until Mr. Smith would return.

Well, I did throw the coat over them, but the bees came after me just the same as before. For all that I tried to do them good, I received nothing but stings as pay; and that is not all, when Mr. Smith came home I thought he would say, "How brave you were, and how good to keep my pets warm and comfortable;" but, instead, he laughed, and went and got the coat, and, to my surprise, the coat was almost covered with bees that had killed themselves by stinging the coat.

I am utterly discouraged in the bee-business. It reminds me of religion. I thought I was doing right to the bees, and, through ignorance, caused myself lots of pain, and their death. Many believe, and think, they are living right, but through ignorance because they do not study the Bible to learn the right way, they cause their own and others' destruction; and sometimes if you want to tell them, and do them good, they will do just as the bees did unto me.

Plum City, Wis. MRS. F. C. SMITH.

Winter Losses from Carelessness.

The past winter, in this locality, was one that will be long remembered by bee-keepers, on account of the heavy loss of bees. I think that I am safe in saying that 75 per per cent. of the bees that were wintered out-doors, in single-walled hives, are dead; as several winters before the one just past have been very mild, and bees needed little or no protection, therefore many of the bee-keepers got a little careless, thinking that the old-time winters were a thing of the past, and now they regret the very moment they allowed such a thought to enter their minds. I think that bees will be better cared for, for awhile, especially until their keepers get careless, and another back-set that will take them several years of labor to make up their loss.

I do not consider bees the worst property a man can own, therefore I protect them from the cold, winter storms. It always looks strange to me to see people care for a hog or a sheep and let the bees shift for themselves. Now, it is right to take good care of and protect our stock, but while we do this, let us not forget our little friends—the honey-bees.

I wintered 11 colonies in the cellar, and so far (March 14th) in splendid condition. I left 14 colonies out-doors, of which I lost 4, the cause being as follows:

Last fall I had a sale, and sold quite a number of colonies. Some parties failed to come after them, and those did not get any protection; but the 10 colonies that have wintered out-doors are in fair condition. But I shall try a larger per cent. of my bees in the cellar hereafter.

If those who keep bees, if but a few colonies, would get some good bee-paper, such as the AMERICAN BEE JOURNAL or *Gleanings in Bee-Culture*, it would be a great help to them. As for me, I would not think of doing without a good bee-paper to read, as long as I keep bees.

Pioneer, Ohio. CHARLES E. FALKNER.

Bees Frozen in Tennesee.

The winter has been extremely bad here in the South, freezing a large number of bees to death in each colony. I did not lose a colony, but a good many were queenless this spring. The queens lost were all blacks and hybrids, of which I had about half. The Italians came through without the loss of a single queen, the blacks being in the best condition in the fall, so I am inclined to think the Italians will winter the best here. The spring has been more favorable, and bees are breeding up faster than last spring. We had a frost here on April 24th; the timber being green, the tenderest vegetation was injured slightly.

R. A. SHULTZ.

Cosby, Tenn., April 26, 1893.

Bee-Diarrhea—Hardy Bees.

On page 531, Dr. Miller does not agree with me about bee-diarrhea, and when he disagrees with a person he does it in such a pleasant way that it makes one love him better. He says if the bees of which I spoke could have had a flight in time, they might have been saved. Now, all of those bees were on the summer stands, and had been all winter, and were transferred about 1½ weeks before. They had a flight for nearly every day for two or three weeks before they died, it being very warm about that time. They might have died of something else. They had honey when I transferred them, but they certainly had a terrible case of the diarrhea, while all other colonies were all right—all transferred about the same time.

The most of my bees are in Illinois, 60 miles from here, yet I have two colonies here in box-hives that I got in March; one has a half-inch crevice in the top, front, and two sides, and the other has a hole rotted out on top, 5 inches wide across the box, with nothing over it. It rained and snowed in on the combs and bees all winter, and sometimes the mercury was 12 degrees below zero. Now, May 1st, they are very strong colonies, and at work with a vim, with a few immature bees lying at the front of the hive for a month or more, which is a

true sign of a fertile queen. Now if bees can live in that way all winter, they need no chaff hives nor cellar.

The AMERICAN BEE JOURNAL is a welcome visitor at my home. R. H. HUMPHRIES.
Morganfield, Ky., May 1, 1893.

Snow and Rain—Wintered Well.

Bee-keeping has a dark side this spring. April came with a few nice days, and then it set in cold and windy. No pollen has been gathered so far this spring, but the first week in April I put out rye and wheat flour. The first day my bees carried in about 11 pounds of it, and in two days they carried in about 25 pounds. I had 66 colonies then. I struck the nail on the head when I fed the flour. The sun has shone only part of two days in the 14 days of the last two weeks.

On April 18th it rained heavy for 24 hours, and then it snowed for 40 hours—the snow fell 18 inches deep on the level. The coldest was 4 degrees below freezing. My bee-yard was a hard looking sight. A heavy wind set in, and it drifted the snow badly, the drifts being 4 to 6 feet deep. It rains every day—it is raining hard while I write now.

I put 68 colonies into the cellar last fall; one died, and one was weak. My bees never came through in better condition, and I have kept bees for 12 years. The hives were chock-full of bees, when put out. If this rainy weather holds out much longer, it is going to be awfully hard on the bees. The fields and low lands are flooded. My bees were never in better condition for a crop of honey, but everything looks dark and gloomy now. C. A. GOODELL.
Mankato, Minn., April 25, 1893.

Springing Bees—Stealing Eggs.

I cannot but observe the many testimonials in the BEE JOURNAL, giving their good luck in wintering bees; how nicely they came out on April 1st or 5th, with but little (if any) loss; and could they but tell to-day, I fear the tenor would be very much changed. For me, there is but very little trouble in wintering. I wintered my bees with scarcely 2 per cent. loss, but the "springing," if I may use the expression, is very much more severe for me, and I think I can safely say the same for others.

I placed in the cellar 110 colonies, apparently in good condition, with plenty of stores, and all, save two, came out with sufficient stores; but April has been a "stunner" for me. Good 10 per cent. will not excuse me at present, and I doubt not but there will be more to follow, should the present weather exist very much longer.

Now, I am led to believe that if nearly all who have given their early testimonies were privileged to give them to-day, their tone would be very different from the former. I claim we are not "out of the woods" yet, and will not be before May 10th, to say the least.

One thing more I wish to speak about: On page 535, Mr. Thos. Johnson, in the latter part of a paragraph, says: "I removed all queen-cells," etc. I can corroborate every word, for I had the same experience, and found queen-cells—started and larvæ in them—that had neither eggs nor larvæ in them at the time of placing fresh combs with both eggs and larvæ there. Now I do not wish to interfere with any one's theory, not even with Mrs. Atchley's, but just you stick right to it, Mr. Johnson, and I will help hold you up with both hands and strong arms, for you are all right. Theory and practice are twin sisters, and go hand in hand, but practice pulls theory along, especially in this case. A. Y. BALDWIN.
DeKalb, Ills., April 28, 1893.

Lost No Bees—Good Report.

I wintered all my bees on the summer stands, no outside cases, single-walled dovetailed hives, no packing, but two, which had on a super with some old carpet over the bees; the rest had sealed covers, with old carpet on top of the covers protected by a board to keep dry. I had corn-stalks set along the row of hives for a wind-break. Although a very hard winter for this latitude (38 degrees), I did not lose any bees—all came out equally strong in the spring.

The first pollen was brought in on March 7th, from soft maple and elm. The first swarm issued on April 25th, also on April 29th. Bees did well on fruit-bloom at first for about three weeks, then a cold spell with two severe frosts cut off supplies for several days, from April 14th to about the 23rd.

I had only 8 colonies, spring count, and have moved my bees one mile out of town to a better location for pasture and protection. I shipped the most of my last year's honey to St. Louis, in one-pound sections, which sold for 16 cents per section, what I had sold at home for 12½ cents. The whole product from 7 colonies brought me, in cash, $55—not so bad for a beginner, I think.

The future appears promising for a good crop this season, although it is, at this date, raining nearly all the time, but not cold as it was last spring at the same date.

D. A. CADWALLADER.
Prairie du Rocher, Ills., April 30, 1893.

"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.70.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, May 20th, 1893 :

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

CINCINNATI, O.—A short supply of extracted honey is the cause of a slow demand. It forbids an effort on our part to sell. It brings 6@8c. There is no choice comb honey on our market, and prices are nominal at 12@16c., in a small way.
Beeswax—Demand good at 22@25c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Comb honey is well cleaned up. Fancy white is selling at 14@15c. Off grades, 12@13c., and buckwheat, 9@10c. Extracted is dull, and the market well stocked with West India honey, which sells at from 68@75c per gallon. Beeswax, 26@28c,
H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted. 6@7c. No beeswax on the market. H. & B.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

MINNESOTA, MINN.—Honey is in good demand, especially for fancy white clover. There is considerable of the low grade on the market. Extracted is also improving in prices. Beeswax in light demand. Fancy white clover, in 1 lb. sections, 18c.; choice white clover, 16c.; golden-rod, 1 lb. sections, 13@14; dark, 12@13c. Extracted, 9@10c.
J. A. S. & Co.

ALBANY, N. Y. — Honey market is very quiet now, as between seasons. Beeswax—at 30@32c. for good color. H. R. W.

Your Neighbor Bee-Keeper—have you asked *him* or *her* to subscribe for the BEE JOURNAL? Only $1.00 will pay for it for a whole year. And, besides, *you* can have Newman's book on "Bees and Honey" as a premium, for sending us two new subscribers. Don't neglect your neighbor! See page 643.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.
F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.

San Francisco, Calif.
SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.
J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.
HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.
H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.
CHAS. DADANT & SON.

Cincinnati, Ohio.
C. F. MUTH & SON, cor. Freeman & Central avs.

Bee-Keeping for Profit.—We have just issued a revised and enlarged edition of Dr. Tinker's book, called "Bee-Keeping for Profit." It details his most excellent "new system, or how to get the largest yields of comb and extracted honey." The book contains 80 pages in all, and is illustrated. Price, postpaid, 25 cents, or clubbed with the BEE JOURNAL for one year, for $1.15.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line**, for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

TO EXCHANGE — High Grade Safety Bicycle, for Honey or Wax.
17Atf J. A. GREEN, Ottawa, Ill.

TO EXCHANGE—Good 6-inch Vandervort Fdn. Mill, for wax, honey, or offers.
J. H. & A. L. BOYDEN,
18A4t Saline, Mich.

BEE-KEEPERS, EXCHANGE PICTURES.—Send $1.00 with Cabinet Photograph, to R. E. Pittman, Grifton, N. C., and get one dozen card size photo's; ½ doz. for 75 cents.

WANTED—40 Colonies of Italian or hybrid Bees on L. frames, combs wired and free from disease. Write me your price, condition of Bees, etc., at once.
WARD LAMKIN, Goodyears, Cayuga Co., N. Y.

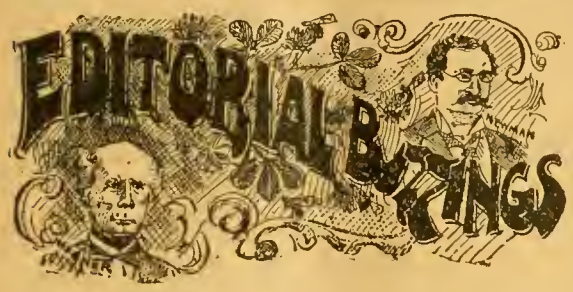
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., JUNE 1, 1893. NO. 22.



Great Britain imported, during the month of April, 1893, about $17,500 worth of honey.

Bread and Honey was the principal food of the Pythagorians, as stated by Aristophanes, who says that those who ate this for their morning meal were free from disease all their lives.

Just One Year Ago To-Day (June 1st) we assumed the management of the AMERICAN BEE JOURNAL. It was with a feeling of uncertainty as to our ability to conduct it successfully that we began the work, and we are not sure yet whether the "Old Reliable" is doing all it should do to advance the best interests of the bee-keepers who read it from week to week. We think we know of ways in which there is abundant opportunity for still greater improvement, and just as soon as we feel financially able to bring the AMERICAN BEE JOURNAL up to the standard we have in view, we mean to do it.

We desire right here to most earnestly thank our friends for the cordial support and very encouraging words they have given us in our work the past year, and we trust that the friendships that have been formed may be lasting, and become deeper and stronger throughout the coming months and years.

In view of the past few seasons of failure in the honey crop, we have been rejoiced to behold the grit, pluck, and good-nature with which so many bee-keepers have held on to the cause they hold so dear, and we trust that the dawning season of 1893 may fully reward them for the heroic faith, endurance and fidelity which was necessarily exercised the past few years. That the future may bring to our readers the full fruition of their every goodly hope, is our sincerest wish.

World's Fair Notes. — The great World's Fair, or more properly perhaps, the Columbian Exposition, has now been running for nearly one month, and from 20,000 to 50,000 people are daily on the grounds.

Owing to numerous misleading reports that have been published in the newspapers throughout the country, we thought that our readers might like to know just how things really are, and would be pleased to to have it direct from the editor of the BEE JOURNAL. Whatever we may say now, or at any time hereafter regarding the Fair, will be just as nearly the exact truth as we may be able to learn while right here at the "seat of war."

From our office we can go to the Fair all day, and it need not cost us over 60 cents—10 cents for round-trip street-car fare, and 50 cents for the admission fee. This, of course does not include refreshments, which can be had inside the gates at a slightly advanced price over provisions outside, where they are not excessively high. The better way is to buy a lunch before entering, as

you can find plenty of free and comfortable places to sit down while you eat, and good, filtered water is also free all over the grounds. As we never drink anything stronger than water (except perhaps tea and coffee), we can get along very nicely and cheaply when going to the Fair. A room with lodging costs $1.00 per day, with meals extra, and these accommodations can be found all over the city. Of course, higher-priced rooms can be had, but we prefer the plain and home-like to the fancy or high-toned and high-priced. Splendid meals can be had outside the Fair grounds at from 25 to 50 cents each, in any part of the city.

In the foregoing we have enumerated simply the *necessary* expenses: any one who has plenty of cash, and wants to get rid of it, will find ample opportunity to lessen his "pile" without going very far in any direction here in Chicago. As to the danger of being robbed or swindled in any way, personally we have never had the least occasion to notice it. Of course we would not advise any one to carry or exhibit very much money anywhere, whether in Chicago or when attending a county fair. We never have about us over two or three dollars, so that were we robbed we would not lose much, neither would the thief be burdened with what he would get.

During the first three Sundays the Fair has been closed, just as it should be. There was not the least disturbance on account of the closed gates on Sunday—in fact, we don't think anybody has one good reason for wanting those gates opened on our National day of rest. For ourselves, when we get so we can't earn an honest living without working on Sunday, we'll get out of the way so as not to lead others into wrong doing and wrong living.

As to reduced railroad fares, we are unable to say anything very definite. Of course, all railroads will have reduced rates, but whether the percentage of discount will be uniform on all roads, we are unable to say. All can find out for themselves just what the round trip will cost, by applying to the local railroad agent.

We would not advise any one to be in a great hurry to come to see the Fair, as very many of the most interesting exhibits are not yet in place. We think it is safe to say that not all will be completed before June 15th. Four or five thousand men are still at work there, but they are rapidly putting on the finishing touches.

Next week we will have something to say about the exhibits of honey, beeswax and apiarian supplies.

What Bro. Alley Wouldn't Do.—A few weeks ago we quoted some of the things that Bro. Alley had said he wouldn't do, but of course we couldn't tell in one issue *all* that he "wouldn't do." Here are a few more of his "I wouldn't" paragraphs from the May *Apiculturist*, that will likely be interesting to many of our readers:

I wouldn't attempt to keep bees without subscribing for one or more of the bee-papers.

I wouldn't make the mistake of cutting the foundation too large when filling the brood-frames. It should be cut ¾ inch short at the ends and bottom. The comb will then stretch out so as to touch the wood.

I wouldn't bother about wiring brood-frames if I could purchase the Van Deusen wired brood foundation. This celebrated foundation is made by placing the wire between two thin sheets of wax, and then the whole is subjected to powerful pressure. The wire never works out, nor do the bees ever gnaw the wax off the wire as they do in all cases where the frames are wired, instead of the foundation.

I wouldn't cut the limb by any means, if a swarm of bees settle upon the limb of a tree. I would wet the bees with a hand pump, or sprinkler of some kind, then hold a basket under the cluster, and with a quick upward blow against the under side of the limb, dislodge the bees, and let them drop into the basket. Descend the ladder slowly, if one is used, so the bees on the wing can trace the basket down. Dump the bees in front of the hive they are to occupy, and the job is done.

I wouldn't separate the bees, nor even look for the queens, unless they are valuable ones, if two, or even three, swarms should issue at the same time, and all settle on the same limb, or other object. I would put all the bees in one hive, and give them all the sections they could work in to advantage. Whew! what a pile of section-honey such a hoard of bees would store. I have had two swarms that united, fill the brood-chamber and 100 one-pound sections in less than three weeks.

Bicycles are getting to be very common now-a-days. We have two for sale, and any one wanting a bargain in a good bicycle, should write to the office of the BEE JOURNAL.

"Bees and Honey"—page 675.

Tremendous Honey-Flow.—Mr. H. F. Coleman, of Sneedville, Tenn., wrote us on May 22, 1893, concerning the honey-flow in his locality. Here is what he said, which shows that at least in one place they are getting some new honey:

The weather here is fine, and we are having a tremendous honey-flow. Poplar is in its prime, with white clover just coming in. So far the season has been all that heart could wish, but owing to the weakened condition of the bees, by the cold winter, the honey crop will not be what it otherwise would have been.

With favorable weather we expect a continuous honey-flow until the closing of sour-wood and basswood in July. This long season may seem strange to our Northern friends, but in an ordinary season we have honey-producing flora in great abundance all the time from May 15th until in July—a period of nearly, or quite, 60 days. In the fall we have asters and golden-rod sufficient to produce winter stores, with frequently a surplus. H. F. COLEMAN.

Bee-Keeping for Profit.—The second edition of Dr. Tinker's new book is now ready to send out. It gives his New Management complete, and three years of added experience in its use by himself and other bee-keepers. Several new illustrations have been added, besides much new matter in regard to the use of perforated zinc. Price, 25 cents, postpaid, or clubbed with the BEE JOURNAL for one year for $1.15.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Getting Moths Out of Hives.

I have a few colonies of bees, and the moths have got into a couple of them. How can I get them out the easiest way? I have one book on bees, but it does not say a word as to how to get the moths out of the hive. My hives have movable frames. LOUIS SCHWANER.

Pilot Knob, Mo.

ANSWER.—Perhaps you will not find a direct answer to your question in any of the bee-books. They will tell you to keep your colonies strong, and with strong colonies you need have no fear of worms. Even if a few worms have secured a foothold in the hive, no serious consequences will follow if the colony be strong, especially if the bees are Italians.

But if you want, you may do something to help the bees. Take out the combs, and you will see on the surface of the comb traces of the silken galleries spun by the worms. With the point of your pocket-knife, or something of the kind, pick a hole into the gallery at one end. Now if you follow along fast enough, and tear open the whole length of the gallery, you may get the worm. But the worm will hustle to get out of your way, and there is some chance that it may bury itself down in the comb where you cannot easily get at it.

So, instead of following it up, as soon as you have torn open a hole at one end of the gallery, do the same thing at the other end, and then follow it up, digging into the gallery as you go. You may crowd so hard upon the worm as to overtake it and be able to seize it with the point of the knife, but more likely you will merely drive it along until it comes to the hole at the other end of the gallery, out of which it will come, and if you are not lively it will jump off the comb and get out of your way. Having caught it, you can choose your own method of execution.

Honey, Not Swarms, Wanted.

I would like to ask you if it is possible not to have any swarms, and have the bees work on comb honey exclusively? I have 16 colonies of bees, some of which are part Italian, and some are the black bees; also some of them have but 3 frames, and the bees have comb every way but straight—it is all mixed up.

I am a beginner, and never handled bees before. Shall I transfer them to hives with frames, or take the comb out of the mixed-up ones, and put frames in the hives? It is a frame hive. I do not care to have any swarms, as I am crowded for room, and want to get all the honey possible, and no swarms.

G. D. LITTOOY.

Tacoma, Wash., May 13, 1893.

P. S.—I have the Simplicity 8-frame hive.

ANSWER.—To work exclusively for comb honey, get good crops, and prevent any attempt at swarming, is a problem over which many a one has

been puzzling for years. Many a one has sadly given up the problem as one impossible of solution. Different plans have been tried with more or less success—generally less—among them the plan of Simmins, of England. He claims that bees will not swarm so long as they have plenty of opportunity to build comb between the brood-nest and the entrance. So he puts sections with starters under the brood-chamber, and when sufficiently worked he puts these sections above, putting fresh ones below.

Mr. H. P. Langdon has patented an arrangement which is now exciting no little interest. It was described in the BEE JOURNAL for May 18th. The principle is to have the two hives standing side by side, alternately throwing the whole field force into one hive, then into the other, always shifting the supers to the hive that has the bees. This weakening at stated times each colony before preparations can be begun for swarming, prevents any desire in that direction. The plan will no doubt have thorough trial the present season, and it certainly promises great things.

If you want to handle your combs, you must certainly have them in frames. You can transfer, or you can drive out two-thirds of the bees with the queen into a hive with frames filled with foundation about the time bees begin to swarm; or, as soon as they get strong enough, put the old hive near by the new one which is to be placed on the old stand, then in three weeks drive out the rest of the bees, and add to the new hive.

Probably Killed by the Cold.

I had 3 colonies of bees in a row on a box 8 inches high during the past winter; there was plenty of honey in the brood-chamber, but I left 6 or 8 sections in the super that were filled with honey, so they could have plenty in the spring. They went into the super and ate all the honey, and died in the cells, with plenty of honey below. Some of the cells had three bees in them, and many had two. The rabbits worked under the box. Could that have disturbed the bees? There was an oil-cloth over the hives, fastened down good and close. A Mr. Tesky here put up his bees in the same way, and saved all but one colony.

MARY J. DUNKIN.

Lake View, Iowa.

ANSWER.—The rabbits were hardly to blame, and if the winter had been mild so that the bees could have had frequent opportunities to shift their quarters, they probably would have come through all right. But the winter was severe, and there were long spells when bees would not break cluster. It is natural for bees to work upwards, and there being very free communication between the hive and super, the bees worked up into it, used up all the honey within reach, and then starved rather than to try to go below for stores. Indeed, if a bee had gone down she would probably have been chilled so she could not return.

R. F. HOLTERMANN.

Again we find it a pleasure to present to our readers a Canadian bee-keeper and apiarian writer—perhaps the youngest, and at the same time one of the most experienced, to be found among our cousins over in the Dominion. Mr. Holtermann's name is quite well known to the apicultural world, through his many interesting and practical contributions to the literature of apiculture during the past perhaps ten years. The following presents some of the principal points of interest in his life:

Richard Ferdinand Holtermann was born in Hamburg, Germany, on June 14, 1860, thus making him exactly 33 years old in about two weeks. The general impression is that he is much older, but he began bee-keeping and his career as an apiarian writer very young. He is from Norwegian extraction on his father's side, the late Ivar S. Young having been acquainted with many of his relatives, who hold some of the leading positions in Norway.

At the age of two years, Mr. H.'s parents removed with him to Canada, settling in the county of Renfrew, in Ontario. He received a fair education through a governess, a private school

near Ottawa, Collegiate Institute at Ottawa, Upper Canada College, and at Day's Commercial College in Toronto.

Always fond of rural life and occupations, he went to the Ontario Agricultural College at Guelph, Ont. Besides making many friends there, he left with some of the highest prizes, ranked second in general proficiency, and took honors in every subject. When leaving, President Mills, amongst other statements, says this in a recommendation: "Honest, honorable and upright, a keen observer, and a young man who will do everything in his power to succeed."

Mr. Holtermann has spent the most

R. F. HOLTERMANN.

of the time since in the country. He became interested in bees through Root's "A B C of Bee-Culture" and Cook's "Manual of the Apiary" at the Ontario Agricultural College. He spent two seasons with Mr. D. A. Jones, of Beeton, Ont.

In 1882 he was appointed Secretary of the Ontario Bee-Keepers' Association, and has also been a director of it. He attended the North American Bee-Keepers' Conventions at Rochester, Detroit, Chicago, Columbus, Brantford, Albany and Washington. He has twice been a Vice-President of the North American, and once its Secretary, being instrumental in bring the convention to Brantford. At Columbus there was a strong movement to elect him President, but he declined in favor of another.

He has been President of the Ontario Agricultural and Experimental Union, which has been pursuing important investigations upon the Foul Brood question, and for years has been Secretary of the Union. He is President of the Brant Bee-Keepers' Association. He has for two years attended the regular meeting of Farmers' Institutes, being appointed lecturer by the Ontario Government upon bee-keeping. He has just completed a pamphlet for the Dominion Government for distribution by the Emigration Department in Europe.

At Brantford he is a member of the Brant Bee-Keepers' Association, the Poultry and Pet Stock Association, the Farrington Debating Society, and the Y. M. C. A. He belongs to the Ancient Order of United Workmen, Independent Order of Odd Fellows, and for this latter he cheerfully blames Dr. A. B. Mason.

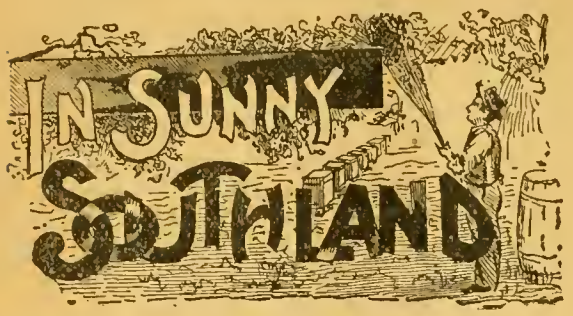
There is, perhaps, no one better known as a bee-keeper to the general public; this is on account of his extensive writings through the general press, such as the *Globe*, *Mail* and *Empire*, at Toronto; the *Star*, in Montreal; the *Farmers' Advocate*, the *Canadian Live Stock Journal*, the *Rural Canadian*, and the *Canadian Horticulturist*, to all of which he has been a paid contributor. He is well known as a writer in apicultural journals, and has been a regular contributor to the *British Bee Journal*. He has also written for the *Norwegian Bee Journal*. He speaks German, and is fairly well acquainted with French.

On May 17, 1887, he was married to Lois, daughter of Mr. S. T. Pettit, of Belmont, Ont., having met Miss Lois at the North American Bee-Keepers' Convention at Rochester. They have, besides two daughters, one son, William Ivar, named after Thos. Wm. Cowan and the late Ivar S. Young.

Last year he secured about 43 pounds of comb and extracted honey per colony, and reared about 500 queens. He put into the cellar 83 colonies and 7 nuclei, and lost only two nuclei in wintering.

G.

Your Neighbor Bee-Keeper—have you asked *him* or *her* to subscribe for the BEE JOURNAL? Only $1.00 will pay for it for a whole year. And, besides, *you* can have Newman's book on "Bees and Honey" as a premium, for sending us two new subscribers. Don't neglect your neighbor! See page 643.



CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Transferring Bees from a Gum-Tree.

As per promise on page 332, I will now report on transferring a colony of black bees from a hollow gum-tree, in a swamp, to two hives.

The tree stood ten feet out in the water, and the bees had an entrance 12 feet up the tree. Procuring a ladder, I surveyed the tree, and found it a mere shell, much of the wood only an inch thick.

After building a platform in the water to work on, I smoked the bees from the bottom, then proceeded to saw down the old gum-tree, having secured a rope to the top, and drawing it tight in the direction it was to fall. The bees were all in by this time, and down came the tree. (I had wrapped a tent around the entrance to keep the bees in.) In falling it struck the bank just right, six inches above the water.

Unwrapping the entrance more smoke was blown in. With a saw I soon cut half way through the log, in sections of about two feet, finding comb, honey and bees for 11 feet in the cavity.

Now began the fun. Splitting one section open, I found a mass of bees, honey, and combs, eight combs thick, so cutting a palmetto leaf for a fan, not having any bee-smoker, I fanned smoke in, and drove the bees from my work, and commenced removing combs, honey and brood, keeping them separate.

The first day we succeeded in felling the tree, removing combs and honey for eight feet, and had the bees all driven before us. Then packing some of the southern gray moss in the cavity, we wrapped the tent all around the bees and tree, and adjourned for the night.

The next morning it rained a torrent, until noon, deluging every thing, and raising the water up to the tree. It soon cleared away, and by sundown the bees were all driven out on the log, under the tent, honey and combs all removed, four frames filled with brood-comb, nicely clamped in, with round sticks tied at the top and bottom.

Now placing the hive close by the bees, and brushing a few on the alighting-board, I sat down and watched developments. It was just fun—a steady stream of bees soon headed for the hive, and poured in, apparently glad to find a home. The hive would not hold them, and not having another hive, I got one of Armour's canned-beef boxes, put in cross-bars, and clamped a few pieces of brood-comb to them, brushed a few quarts of bees from hive No. 1 on the ground, picked up hive No. 1, carried it away a hundred yards, and set the box where the hive had stood, and brushed some bees on the board in front. They soon ran in, and thus colony No. 2 was started, and left there to catch those that would naturally return from hive No. 1.

Now padding the top of my head, I picked up colony No. 1, and started home a half mile away, and with my new pets buzzing loudly at their new condition, balanced on my head, we soon reached home, and deposited them carefully on the verandah under my bedroom window.

The next morning I found they had cleaned house, and gone to work as natural as though nothing had happened. In four days I opened the hive, and was surprised to find all the brood-combs well built into the frames, and four frames of guide-comb partially drawn out, and lots of orange-blossom honey placed therein. Cutting the strings to the clamps, on top only, lifting the frames with the left hand, I peeled off the clamps, replaced the frames, adjusted all, leveled the hive, and not a cross bee appeared. My colony, in five days, was as earnestly at work, and as much at home, as any bees in Florida.

Now as to colony No. 2, that was formed from remnants: On the fourth day I visited them, and found them as earnestly at work as No. 1, but not so many bees. Removing the cover, I found six queen-cells started, and all happy. In ten days more I will give them a comb of brood from No. 1, and then have two good colonies from the old gum-tree, a big dish-pan full of honey, and several pounds of wax for my 1½ days' work—not a bad investment.

Now to any one trying the experiment, as I have done, it is necessary to work systematically, and have great patience or you will give up in disgust, but it

can be done—I have done it, and made a success, under very adverse circumstances, and now, while I write these lines (March 23rd), my pets are busily at work not four feet from me.

This is an eye-opener to the "Florida cracker," and many explanations of surprise and wonder we hear as they pass our door, and see my bees all around me, in a cloud. As one colored man said to-day, "Seems to me these Yanks can do 'most anything they sets their hands on."

In transferring I received a dozen stings, and being a sufferer from sciatic rheumatism, this will be a good test as to its being a "sure cure." No benefit has so far appeared as the result.

I have to-day put on supers with 21 sections, 1½ pounds each, and will soon surprise the "crackers" with some section honey from orange blossoms, which they have never seen. Bee-keeping in Florida seems to be a kind of "go-as-you-please" business.

C. F. GREENING.

Orange Park, Fla.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

Report of the Texas State Bee-Keepers' Convention.

(Continued from page 652).

SECOND DAY—CONCLUDED.

A general invoice was taken of the number of colonies, spring count, in 1892, honey produced, and the number of colonies now owned, spring of 1893.

Dr. Marshall stated that he took the first premium at the Dallas Fair, and had one colony. Dr. Howard, through the kindness of Bro. Graham, had one colony of the best bees he had ever seen; they were uniformly 5-banded Italians. The others reported as in the table.

A call was made for the charter members present, and Dr. W. K. Marshall, W. R. Graham, Dr. Wm. R. Howard, George Wilson, and I. H. Hightower responded.

The election of officers for the ensuing year was next held, which resulted as follows:

President—Dr. W. K. Marshall, of Marshall.

1st Vice-President—W. R. Graham, of Greenville.

2nd Vice-President—A. M. Tuttle, of Gainsville.

STATISTICAL REPORT.

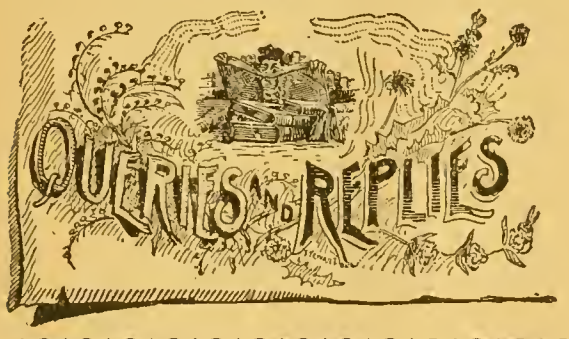
Name and Address.	No. Cols. Spring '92.	Lbs. Ext. Honey.	Lbs. Comb. Honey.	Cols. 1893.
Dr. W. K. Marshall, Marshall.	1	—	—	12
Jason Ayer, Golden	8	—	250	7
Joel Simmons, Kingston	100	2400	—	100
C. J. Cutler, Dallas	13	—	450	13
J. P. Huckabay, Greenville	2	—	—	2
T. Carter, Alliance	2	—	150	8
Jennie Atchley, Greenville	400	1000	—	400
J. R. Atchley, Arlington	20	400	400	20
T. E. Miller, Grand Prairie	6	—	200	15
W. H. White, Deport	9	600	400	20
D. T. Willis, Dangerfield	41	600	—	41
Chas. Williams	1	75	—	4
George Wilson, McKinney	30	—	—	30
J. A. Meeks, Stone Point	20	150	30	33
G. W. Reeves	5	75	—	8
A. H. Jones, Golden	63	60	—	21
A. M. Tuttle, Gainsville	60	150	—	68
I. H. Hightower, Kingston	20	—	16	24
J. A. Bailey	19	—	900	33
W. R. Graham, Greenville	100	1200	800	100
J. F. Teel	60	—	—	45
C. M Davis, Denison	10	—	150	10
R. E. L. Peck, Rockwall	10	900	100	20
J. D. Givens, Lisbon	50	750	750	50
B. F. Carroll	35	2450	—	35
Dr. J. D. Bass, Pittsburg	16	—	—	8
J. A. Cathey, Vansickle	4	—	—	1
J. A. Bailey, Walton	11	60	—	16
W. E. Smith, Golden	6	100	—	12
J. W. Judy, Floyd	—	—	—	4
G. P. Cheney, Wagner	—	—	—	26
R. L. Parson, Altoga	18	—	100	24
H. L. Bolton, Alliance	28	400	100	35
Melvin Kimbrough	4	—	21	5
Willie Atchley, Greenville	4	25	50	4
J. S. Robinson	6	—	—	15
P. G. Carter, Kingston	2	—	75	3
W. T. Pryor, Farmersville	100	2000	—	100
Total	1284	13,395	4942	1363

Treasurer—George Wilson, of McKinney.

Secretary—Mrs. Jennie Atchley, of Greenville.

Greenville was selected as the next place of meeting. The convention was closed with prayer by Dr. W. K. Marshall, having adjourned to meet on the first Wednesday and Thursday in April, 1894.

After the adjournment, the visitors were invited to go through the supply factory of Wm. R. Graham & Son, and queen-rearing apiary of Mrs. Jennie Atchley. After viewing the machinery, and seeing the interesting methods of rearing queens, and the fine queens and beautiful 5-banded workers, a sort of general "love feast" was manifested, hand-shaking and adieus before parting, all departed carrying with them happy remembrances of the enjoyment of the meeting, stimulated with a new and stronger courage and zeal, each one feeling that he was benefited by what he had seen and heard, and declaring within himself to try to attend each succeeding meeting, and make the Texas State Bee-Keepers' Association the best in the South. E. J. ATCHLEY, *Sec.*



Comparison of In-Door and Out-Door Wintering of Bees.

Query 873.—Suppose I put 50 colonies in the cellar and leave 50 colonies out, keeping the cellar at 45°, and taking the bees out of the cellar for a flight whenever those outdoors have a flight, the temperature outside generally varying from 30° to 50°. Which ought to winter best, supposing those outside are put in the best shape for out-door wintering? And if not too much trouble, please tell why?—P. N.

I cannot speak from experience—J. P. H. BROWN.

You can tell by trying. We leave all of ours out.—E. FRANCE.

I would not carry them out of the cellar for a flight.—MRS. L. HARRISON.

In Missouri, the ones you left outdoors, every time.—EMERSON T. ABBOTT.

Those in the cellar ought to do the best, under such condition.—WILL M. BARNUM.

I don't know, but I think I'd chance those out-doors, because they'd have better air.—C. C. MILLER.

I presume the cellar-wintered bees, from the fact that they will not have to endure the sharp changes of temperature.—J. M. HAMBAUGH.

Bees winter best out-of-doors where the climate permits them to fly out frequently. Bees kept in a cellar should not be carried out for a flight.—P. H. ELWOOD.

Those out-doors will winter the best. Putting those in the cellar out every time the weather was warm enough to fly, would be very likely to kill them.—M. MAHIN.

If the temperature outside ranges from 30° to 50°, I see no use in bothering with in-door protection. I should want those inside to winter a *good deal* better before I would practice it.—EUGENE SECOR.

I should prefer to have the bees outdoors, under the above conditions, for the reason that I would be sure of pure air and flights without the labor of taking them out and returning to the cellar.—J. H. LARRABEE.

In a warm winter, like those of 1889, 1890 and 1891, those out-doors. In a cold winter, like the last one, I should like the cellar. I think good cellars will be at a premium for a while after this winter.—A. J. COOK.

I have no experience in wintering bees in the cellar. I should think that the 50 put into the cellar and taken out on warm days, would indnce them to rear brood and use honey unnecessarily.—MRS. JENNIE ATCHLEY.

Those out-of-doors, if they are let alone. By moving those in the cellar from time to time, as mentioned, they will be greatly disturbed and suffer therefrom. I should much prefer not to take them out at all.—J. E. POND.

I would not take them out at all until spring came for good. But to your question, I should say both ought to winter about equally well. But where, oh, where, can you be sure of a uniform temperature of 30° to 50°?—C. H. DIBBERN.

Those out-doors. Why? The disturbance caused by moving out and in, with the temperature not above 50°, would be quite detrimental. Leave them in the cellar until the time to put

them out in the spring, and those in the cellar will winter best. Of course, I'm presuming that those put into the cellar have been prepared for winter with the same care that those out-of-doors have, and that the cellar is all right, too.—A. B. MASON.

The colonies wintered out-of-doors will winter best at the temperatures named, every time. There are many reasons why they would winter better, but pure air and freedom from dampness has as much to do with it as anything.—G. L. TINKER.

If I had such a temperature out-doors, during winter, as that quoted, I should not try for cellar-wintering at all. In a case of cellar-wintering, it does not pay to carry the bees out for a flight, but on the whole it is a damage to the bees being thus wintered.—G. M. DOOLITTLE.

If the winter is mild, they will winter equally well, but those out-of-doors will consume the most honey, because they have to eat to keep warm. If the winter is hard, those in the cellar will winter best, because their intestines will be less loaded with feces.—DADANT & SON.

See recent articles bearing on the subject. With the circumstances as you give them, those outside would almost certainly winter better in nearly all localities. Those inside would probably get along better without being taken out at all until it was time to leave them out.—JAMES A. GREEN.

Those left outside, to be sure. Because wintering in the cellar is a choice of evils in places where the temperature is generally from 20° below zero to 20° above. With your temperature you have no evil to provide against. Besides, so much shifting of those in the cellar would be detrimental.—R. L. TAYLOR.

I do not think that any one could answer this question without trying it. But it is my opinion that they had better remain outside than to be handled so often. And I think they winter better in the cellar (without so many changes) than outside under the condition named; so that ends it, with me.—JAS. A. STONE.

In my locality I should expect to bring fully 95 per cent. through all right, if they were all right in the fall. If I could keep the cellar at 38° to 40°, they would be better off without any flight until about April 8th to 10th. When you say those out-doors are in the best possible condition for wintering, "you say a great deal."—H. D. CUTTING.

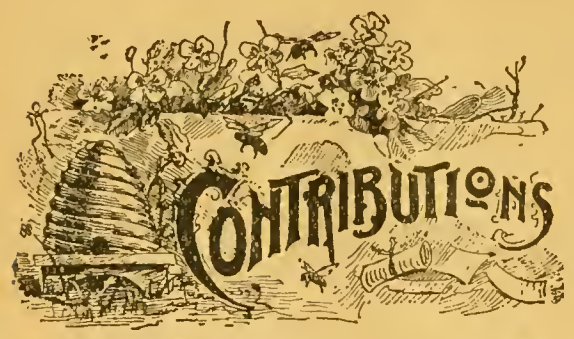
I think the bees outside would do the best, but I might answer with more certainty if I knew your locality. Making all things equal, it is easy to see that the necessary disturbance that the cellar bees must submit to in being carried in and out of the cellar must give the advantage to the outside bees. But it would certainly depend upon the severity or openness of the winter.—G. W. DEMAREE.

If you mean that it gets no colder than 30° above zero out-of-doors, I will take the chance on the 50 left out. The reason would be that, in the climate you indicate you are in, you might have to take the cellar lot out once a week or more. If you took them out every time the others had a flight, so much moving would be a damage to the bees, and a great bother to you. Here in Wisconsin I would give the preference to the cellar lot, especially the past winter, as we have had 100 days of continuous good sleighing, and no day in the hundred that bees could fly safely.—S. I. FREEBORN.

As you state it, they ought all to come out bright and nice in the spring. Mine do, both from the chaff hives out-of-doors and from the cellar. But after they have been taken out of the cellar to stay, you will notice in about three weeks that those wintered out-of-doors have a decided advantage over the others—they having begun to rear more brood in the cellar than they are able to protect from the cold in the yard, much of it chills, and the bees in their endeavor to supply so much brood with water and pollen, venture out in inclement weather, and are lost; hence, your loss from spring dwindling is much greater with the cellar-wintered bees.—MRS. J. N HEATER.

"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.70.

Have You Read that wonderful book Premium offer on page 675?



Methods Used for the Prevention of Swarming.

Written for the American Bee Journal

BY R. F. HOLTERMANN.

At this time of the year there is perhaps no more important subject than the one of swarming. Until I saw Mr. Pratt's latest self-hiver, I had no faith in the utility of this invention, but upon studying it I felt, and feel still, that by means of it we are going to reach those who keep only a few colonies, and cannot watch their bees for swarms. Again, there are others who, for various reasons, do not find it desirable to hive the swarms; these will, I have no doubt, find the self-hiver very useful.

That the self-hivers can be improved upon, I have no doubt—in fact, I think I could improve on them already, but even as they are to-day they are useful. The prevention of swarming has engaged my attention every since Mr. L. C. Root spoke upon that question at the convention of the North American Bee-Keepers' Association held at Rochester, N. Y.

I have, for comb or extracted honey, been able to largely prevent increase by means of shade, ventilation, and the judicious giving of room, and by so doing I have been able to have an increase of as low as 5 per cent., and in no case greater than 20 per cent., for the last six years.

In producing comb honey it has been the aim to secure honey not alone for the market, but also for exhibition purposes, and the product has compared very favorably with the best shown at our leading exhibitions. Many beginners have made shipwreck because they attempted to increase too fast; if they would have prevented increase all they could, thus securing more honey, and having their bees in better condition, then buying more bees in the spring, they would have done better. This is the advice I would give every beginner.

When the bees begin to whiten out the combs along the top-bars in the brood-chamber, unless the honey-flow stops, supers are given. I have an entrance the entire width of the hive, and as the weather gets warm I raise the back of the lid to allow a current of air to pass between the quilt and lid. As the weather gets still warmer, a broad board is laid on the lid for shade, this board to better shade is moved once a day, thus not only shading the tops of the hive, but also the sides. If the nights are unusually warm, the lids are left up all night, if not, they are put down towards evening. More than once, after a sultry evening, we have had to jump up in the night and let down the lids, to prevent rain from getting in, but it pays well. Better yields of honey are secured, and I have had three full Langstroth supers to advantage on one hive.

I am too lazy to hunt out queen-cells and destroy them; if the bees will swarm, I let them, and then put the new swarm on the old stand; this in 95 cases out of 100 it prevents any after-swarms, and gives us all the worker force with the new swarm. Swarms are hived on starters, and put to storing comb honey, as a rule.

The method of changing the hive for the worker-bees I have never tried, and here let me say it appears to me it has been forgotten that this system is not a new one brought before bee-keepers, but was brought out in a bee-paper published in Canada some years ago. Mr. C. W. Post, of Murray, Ont.—a very successful bee-keeper, running between 300 and 400 colonies—gave his plan. In brief, it was this:

Upon a post rested two pieces of timber, the pieces crossing one another over the post, the whole forming four arms which could be revolved upon the post. At the end of each arm, and upon the arm, was a colony of bees, and from the first day the bees could fly the stand was given one-quarter turn. In this way the flying bees, every day they flew, went into a new home, and the swarming impulse was kept down.

Mr. Post is known as a quiet and unassuming, yet successful, bee-keeper with wide experience. I mentioned Mr. Post's method at the Albany convention, and I think the article I refer to was copied into the AMERICAN BEE JOURNAL at the time.

I certainly think we should aim at keeping down swarming as much as we can—therein lies one of the secrets to success. To do so by means of cutting

out queen-cells would be of no use to me—it means too much work.

Some years ago I received a letter from some one, stating he had a method to prevent swarming; he was getting a few to test it, and upon their recommendation he would sell the secret; would I promise not to tell his method? I wrote back saying, "Yes, under two conditions—it must not be something I knew of already, and it must have nothing to do with cutting out queen-cells." He answered that swarming was not prevented by cutting out queen-cells. I answered, "All right; send the method."

Finally I had a letter saying part of the plan was removing queen-cells, so I refused to try the plan.

It is wonderful, however, to note the effect of shade and ventilation to prevent swarming. The work must, however, be done regularly, and without fail. I may say the Ontario Agricultural and Experimental Union is undertaking the testing of Mr. Pratt's latest self-hiver, and I should like to hear reports from those who test it this season.

Brantford, Ont.

A Question About the Langdon Non-Swarming Device.

Written for the American Bee Journal

BY JNO. M. DAVIS.

I am greatly interested in this device, as described in the BEE JOURNAL for May 18th, and I think it will prove to be an important invention, provided the continual loss of bees through the escape, with no possible chance for the young bees or brood to be supplied with water, will not cause a serious loss to the colony. It is a well established fact that bees rearing brood consume large quantities of water daily. Can they be deprived of this without loss?

I bought a few colonies of bees in box-hives too late to transfer conveniently, and in order to have them store honey in frames I have been "jumping" them as fast as they show a working-force, so as to strengthen colonies in Langstroth hives. I find that for a few days the "jumped" colonies take water eagerly, showing very clearly that they need it when deprived of the working-force.

To be sure, we could water them when using the Langdon device, except in out-appiaries, just where it would be most valuable.

Please give us light on this point.

Spring Hill, Tenn.

Why Do Some Suffer from Bee-Stings and Others Not?

Written for the American Bee Journal

BY EMM DEE.

"Well, I'd like to know" why some people suffer so much from bee-stings, and others are scarcely affected? Now, how do you account for such difference?

Pretty hard to tell, but as I've given the matter considerable attention, I may state what I *believe*, and let you judge for yourself.

You see everybody is differently constituted, in mind, body, and its various functions, as you, of course, well know. Your face, general form, voice and physical activity is unlike that of any other person. The system, doctors say, is constantly undergoing changes of waste and repair. The waste is disposed by excretions of various parts of the general economy, the lungs, kidneys and skin doing a larger part of this important work.

Well, now, this waste product—we'll say of your *skin*, when perspiring—is unlike that of any other person. There is a peculiar odor to it not possessed by any other individual. It is by your scent that your dog is able to track your footsteps at long distance, or through a crowd. The odor may be pleasant or otherwise, according to natural causes no one can change. If unpleasant, it by no means argues that the person is unclean; the most scrupulous neatness could not change this odor inherent in the sweat-glands.

Not long since I asked a good old "uncle," a negro of irreproachable habits, why it was that the odor from their bodies was so—so—rank! "Well, sah, don't know 'bout dat, sah, but I reckons 'taint no stronger in we black folks den the smell of white people is to us!"

Then, too, the exhalations from our bodies, like our voices and temper, may be soothing or irritating, and it is to this peculiarity I attribute the friendliness or enmity of bees. If, when they come in contact with you, the odor emanating from your body is *soothing* to them, they will linger on your skin or clothing in contentment, but if your secretions are *irritating*, they at once become vicious, and a hasty retreat is your safest course.

From childhood I have been interested in bees (with no present claim to extended knowledge concerning them), and have observed their peculiarities

with great interest. I have surprised some apiarists by the temerity with which I could, unprotected, even in swarming-time, approach them without receiving punishment; the only time they would sting being when squeezed by accident, as by my shirt-collar against my neck, and then their sting would feel like the pricking from a cambric needle, with no appreciable trouble following. I have never experienced a particle of irritation or swelling resulting from a bee-sting. Whether the fact that I speak to them in a quiet, caressing tone enhances my immunity from their vengeance, I am uncertain, but I believe it best to do so.

Sunnyside, Ills.

Experiment in Cellar-Wintering of Bees.

Written for the American Bee Journal

BY W. J. CULLINAN.

On Dec. 3, 1892, I placed 4 colonies of bees in my cellar for an experiment. They had been fed about 12 pounds of sugar syrup each, which, together with 10 pounds of natural stores, gathered from fall flowers, gave them about 22 pounds each, on Oct. 1st.

The cellar was under my dwelling—size, 18x40 feet—and I knew that if we got much cold weather, the temperature would reach the freezing point, or lower; still I made no provisions for heating artificially, as it was my intention to demonstrate for myself the effect of a low temperature upon the bees while in the cellar.

Well, we got the cold weather all right, and lots of it, and the mercury in the thermometer marked 28° above zero, by the last of December, and remained at about that point for two weeks, then raised to about 32° for a week or ten days, and then came a day when it got up to 45° outside, and I set them out for a flight, fully expecting to find them victims to intestinal derangement. To my surprise they showed no diarrhetic symptoms whatever, and seemed perfectly healthy.

After returning them to the cellar another cold wave struck us, and the mercury promptly descended to about the point reached before, and hovered between that and the freezing point until the last of February. About this time water got into the cellar, which left it very damp, and although over a month too early, I thought it best to set them out for good. They had a flight the day they were taken out, showed no signs of diarrhea, and a pint measure would have held all the dead bees from the 4 colonies.

The next day after putting them out the thermometer marked 8°, and a friend who called said I would lose them. But they seemed proof against all kinds of treatment, for at this date (April 3rd) they are in good condition, except the loss of one queen.

My cellar was reasonably dry up to the time of taking the bees out. The bees were in 8-frame Simplicity hives, with flat sealed covers, and three inches of sawdust over the same. The bottom-boards were left on, and the entrances, ⅜ inch by width of the hive, were left wide open while in the cellar, but contracted to about five inches when placed upon the summer stands.

Quincy, Ills.

The Prophecy of the Honey-Flow for Iowa in 1892.

Written for the American Bee Journal

BY SAM WILSON.

I have read Mr. Thomas Johnson's article on page 533. He tries to prove that my predictions resulted entirely different to what I said they would. He tries to prove that western Iowa had an extra good yield of honey—double the amount of the eastern part. He first reported that he had taken 40 pounds of white clover honey per colony up to July 18th, and that the bees were going like rain to linden, but later he writes that linden only produced honey for two days; that a hot wind from the south dried it up, so from that the flow of white honey stopped, and he had only one or two days to get any more than the 40 pounds per colony, so you can see that was no good yield, and that was two-thirds of his crop, that would make 50 or 60 pounds per colony.

Mr. Frank Coverdale, of Welton, Iowa, did that well, or better, when he says his bees did not get to work more than three days out of a week on account of wet weather, and I have letters from bee-keepers that show that it did rain as much or more than I said it did all over the larger part of the middle and eastern Iowa, and was fine weather in the west, but now he tries to show that the honey-flow was not as good in Jackson county and southwest to Tipton, where I said it would be the best. He says if his informer is correct, the flow was not as good there as in the adjoin-

ing county, and far behind his locality. If all who read *Gleanings* will turn to page 310 of April 15th, present volume, and read Mr. Oliver Foster's account of his visit to Mr. Stainінger, who lives at Tipton, they will see whether I missed it or not. Tipton is the place I especially named, saying they would have the best honey-flow from the northeast through Jackson county, of anywhere in the State. Mr. Stainінger, from 170 colonies, spring count, secured 12,700 pounds of honey. Here is one paragraph of what Mr. Foster says of his honey:

"This was in his large and very neat and clean honey-room and shop, with a large and well-equipped work bench in one end, an extractor and other honey-utensils in the other, a foot-power saw at one side, and the whole middle of the room occupied by a huge pyramid of glassed cases of comb honey of snowy whiteness. Several other piles of nice fall honey stood at the sides; through the back window and screen door I could see a neat apiary of about 230 colonies."

Who can show a larger crop in the whole State, or a better average from that number of colonies? And it must not be forgotten that it was the "off year" for linden, that is, it never bloomed in eastern Iowa to amount to anything. He don't know what the editors of *Gleanings* based their opinions on to make them think the honey-flow of 1892 was better than the few years previous. Their opinions were based on the reports, all that could be got by the aid of the AMERICAN BEE JOURNAL and *Gleanings* combined. What few reports he could get, would not amount to anything compared to these.

Mr. Johnson warns me to be careful or I will jump into a field where clover and linden don't abound. It is the *condition* that it takes to produce a crop of honey that I claim to know about, and of course I would not suppose linden and clover honey could be got from anything but linden and clover, but Mr. Johnson's bees may be bred up to such a high pitch of intelligence that they can get honey from prairie-grass. I would think they could do that about as soon as I would think they would steal eggs, one colony from another. I guess Mrs. Atchley will want to go up there to take lessons of Mr. Johnson on queen-rearing, and also bring down to Texas some of his bees, that are acquainted with such clever tricks; but they might not retain those qualities down here in "Dixey Land."

Cosby, Tenn.

Are Hybrid and Black Bees Worth Improving?

Written for the American Bee Journal

BY JAS. A. GREEN.

I was greatly surprised to see, in the answers to Query 867, how many there were who said, in effect as well as in words, "Let well enough alone." I would have little fault to find with those who take the drift of the inquiry to be whether or not the bees have degenerated, or are likely to degenerate or "run out," through close in-breeding.

Although in-and-in often produces bad effects with other animals, I do not think it probable that bees under ordinary circumstances will breed so closely within a certain strain that deterioration will result. Nature has guarded against this by providing that the mating of the queen and drone shall take place in the air at a distance from the hive.

I think it is an entirely unwarranted assumption that the bees in question have re-queened themselves for years from their own progeny. All of the queens might have been reared by the bees themselves, but the drones with which they mated may have come from several miles away. It is for this reason that I would not apprehend any degeneracy from in-and-in breeding. Still, it is often the case with bees, as with other animals, that an infusion of new blood gives renewed vigor. This is especially the case when different varieties are crossed.

What I specially deplore in these answers, is the advice to "let well enough alone." Where would the world be if men had been satisfied to work on this principle? There is scarcely an animal or plant that man makes use of for his pleasure or profit that has not been greatly improved by breeding or selection. Within the memory of the present generation, careful selection, crossing and breeding have greatly improved our domestic animals, and added millions of dollars to our national wealth.

The long, lean, slab-sided, razor-backed hog of a few years ago was considered good enough by his owner, but the modern hog is a far more valuable and profitable animal.

See how the cow has been improved as a producer of milk and butter as well as beef.

Witness how the standard of horses has been raised, both for speed and draught animals.

The same improvement may be noticed all along the line of our domestic animals, to say nothing of fruits, grains, and vegetables. Are we to conclude that any mongrel breed of bees are "good enough?"

It would seem, from the language of the querist, that he has paid little or no attention to the breeding of his bees. It is a fair inference that he has had no bees of improved strains with which to compare them. How, then, is he to know that his bees are as good, comparatively speaking, as he thinks they are? He says they are prolific, healthy, and good workers. This might truthfully be said of almost any lot of bees, but a trial of them in comparison with the best bred strains might show that as compared with these they were very inferior.

"Every crow thinks his own crowling whitest," and the owner of live stock of any kind, if it is only a yellow dog, is very apt to consider it about as good as there is. The men who are wedded to such ideas as that, must expect to be left behind in the march of progress.

The bee-keeper has the advantage over the breeder of stock of almost any other kind, in that he may make a comparative test for himself of the different varieties, at only a trifling cost. If the breeder of horses or cattle should wish to make a complete change in the breed of his stock, he must go to a great deal of expense in disposing of every animal and getting others in their place. If he adopts the usual plan of "grading up," he must still go to considerable expense for pure-bred sires.

The bee-keeper can make a complete change in his stock at comparatively small expense, and have every bee of the new variety within less than three months. With a money outlay that is really insignificant, he can have all of his bees reared from superior stock, and having nearly all the good qualities of the improved race. For two or three dollars, or less, he may test improved varieties for himself alongside of his old ones. In this way he may gain knowledge from practical experience, which is always the best of teachers.

The best way for the inquirer to do, would be to procure from some reliable breeder one of his best breeding queens, and rear queens from this. It is almost certain that this stock would be an improvement on what he has, so he would probably be safe in rearing from them enough queens to supply his whole apiary. Unless he is certain that his breeding stock is desirable in every way, it might be safer for him to buy two or three queens of each of several breeders, and, after a thorough test, get a good breeding queen of the stock that suited him best.

If he can afford the money better than the time required to rear the queens, let him get from reliable breeders several dozen queens, which, at the proper season, may be procured at very low rates. Then let him rear all queens from selected colonies, or, if he prefers to let the bees rear their own, keep drone-traps on all undesirable colonies, which will somewhat reduce the chances of impure mating. To keep an apiary pure when there are other races within bee-flight, requires a constant struggle, but the bees of almost any apiary may be very much improved by a very little trouble in the way of selection and rejection.

As to race, there is really but little question. The Italians have fairly won the right to be considered the best variety of bees cultivated. Although a few good bee-keepers think very highly of the Carniolans, all the other races that have been introduced, some of them with much blowing of trumpets and highly imaginative recommendations, have proven undesirable, and have been discarded. In this connection be it observed that the so-called "Golden Carniolans" are not Carniolans at all.

The beginner is specially warned against spending his money for any novelties in bees unless he wishes to test them in comparison with what are recognized as the best, and can afford to spend money for that purpose.

The Punic bee fiasco should be a sufficient warning to go slow in this direction. It might be a great misfortune to bee-keepers at large to have an inferior race of bees scattered broadcast over the country, especially if they were put into the hands of those who knew nothing of better races, or who would become disgusted with the unsuccessful experiment of improvement, and make no effort to repair its evil effects.

In selecting that which all recognized as good, there is little opportunity to go astray. To replace or cross the bees in question with Italians could hardly fail to improve them, and the advantages would be great as compared with the cost.

Ottawa, Ills.

"Bees and Honey"—see page 675.

Those Foul Brood Experiments —Parthenogenesis.

Written for the American Bee Journal

BY C. J. ROBINSON.

On page 215, Mr. J. H. Larrabee records his "review of a Canadian report of foul brood experiments." Referring to my record on page 56, he says: "Mr. C. J. Robinson states that a glass cannot aid the eye to distinguish foul brood virus from other germs!" He offers no evidence nor argument to invalidate my "statement," yet edicts it grossly false. He quotes Prof. J. J. Mackenzie as authority to "directly contradict" my quoted statement. Mr. Mackenzie, it seems, has no knowledge of foul brood, for he says: "I certainly would not be prepared to spot foul brood in an apiary, though I certainly *think* I can under the the microscope." Not prepared to identify a case of seething foul brood in a colony, yet Mr. Larrabee assumes to contradict my statement because another has "a new idea"—thinks he can distinguish, pick out, foul brood germs from many other kinds always present in decomposing brood.

Mr. Cheshire recorded in the *British Bee Journal* in 1884: "I have been able to make out no less than five, or possibly 24 distinct disorders (including foul brood), arising from that number of specifically different germs, all of which will require prolonged attention if anything very definite is to be arrived at respecting them." This English authority, Mr. Larrabee says "cannot be weighed against" his and Prof. M.'s guess, "when we consider the sources from which they came."

The facts are, in all cases of rotting bee-brood, there are present not less than five different kinds of germs, among them, if the brood has been taken from that which is so-called *foul*, will be foul brood virus—germs. Mr. Cheshire says he has discovered two distinct families of foul brood germs. I don't dispute him, but I am confident he is mistaken—as to identifying foul brood germs among others present in decomposing brood.

In Rochester, N. Y., we have an institution giving "new light" on the science of microscopy, wherein are sciened bacteriologists and equipage, all of which is reputed equal to any in the world. I am "prepared" to, and do, challenge Mr. Larrabee, who controverts my statements, to demonstrate that foul brood virus may be distinguished from other germs present in rotting bee-brood. I wrote: "Germs pervade all rotting brood, *but* only such as feed upon animate larvæ are foul-brood virus. A glass," etc. No reader could infer therefrom that I had reference to such—"other germs"—as those germs frisking in sauer-kraut, etc.

THEORY OF PARTHENOGENESIS.

On page 599, Mr. H. Reepen, the correspondent in Germany, refers to my controverting the absurd claim that the term parthenogenesis may properly be applied to the production of drone-bees, and says my definition is "the sum of ignorance."

Mr. Reepen refers me to "the book by Cowan, 'The Honey-Bee.'" It appears that he takes his belief from that work. I have been a student in bee-lore beginning anterior to Mr. Cowan's writings, which I have read, and also the criticisms on his excellent book. Mr. Reepen would fain be "partly companion" of Mr. Cowan, but, unlike him, Mr. R. controverts by weak diction, while Mr. Cowan argues in a logical sense. Mr. Reepen quotes Mr. Metzger, and controverts his "statements," not by offering any evidence or reasons, but says *he* is "deadly sure he (Mr. M.) is not right." It does not appear that Mr. R. is at all competent to speak on the subject, yet he submits *his* "dead sure" as a setting of the issue against the proof and arguments of many who are shown to be competent to handle the case.

Mr. Reepen attempts to teach me "what is meant by parthenogenesis *now-a-days*," from which it is to be inferred that *he* knows that the meaning of the term has undergone a change, or changes. The term is not susceptible of an issue being had as to its meaning, nor rendered doubly in any way, but its misapplication may be, and has been, very erroneously applied.

The reproduction of certain species of insects is absolutely different by reason of a difference in the law of Nature governing the production. The reproduction of drone-bees is in nowise the same as that of certain other families of insects. There is no such thing as "the *successive* reproduction of procreating" drones from unfertilized ovum, but such is the case with certain species, to a limited extent; but all reproduction is dependent upon semen. Some species reproduce for a time without renewal, or first fertilization, but semen is Nature's law of reproduction. The fact that the reproduction of drone-bees is governed by

a law radically different from that governing the reproduction of insects without a first *complete* fertilization, proves that parthenogenesis cannot be properly applied to the reproduction of both of the distinct species of insects.

If "what is meant by parthenogenesis *now-a-days*," as per Mr. Reepen, defined by Mr. Cowan, was not made legitimate until his rendering, then it is easy to explain the misapplication of the term as used in the "Dzierzon Theory." The Germans jumped to the conclusion that because drone-bees, as it appeared to them, are procreated without a first fertilization, the term—parthenogenesis—applied equally proper to both distinct species. So now-a-days there are disciples of the old school parthenogenesists, and if Mr. Reepen is correct, there is at least one disciple of the new advent.

Richford, N. Y.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Rolling in the Honey.

Bees came out of winter quarters here in fine condition, and are now rolling in the honey from white clover.

T. J. HENDERSON.

Poplar Bluff, Mo., May 18, 1893.

Hard Winter and Backward Spring.

Bees did not winter very well in this locality. It was a hard winter, over four months without a flight. To make it still worse, we have had a very backward spring.

ISRAEL OVERHOLT.

South Cayuga, Ont., May 13, 1893.

Six Months in the Cellar.

This is the 3rd of May, and our bees are not all taken from the cellar yet. I put my bees into the cellar about Nov. 10th, and none of them have been out since, and there has not been a suitable day to put them out for the last three weeks. This makes about six months' confinement.

Mauston, Wis. FRANK MCNAY.

Good Record for a Hard Winter.

I have added another winter's experience with absorbents and sealed covers. My bees were packed last fall on the summer stands, with an outer case over each hive, packed with dry planer shavings, with a pine board ¾ of an inch thick, covered with a dry cushion, on part of them. The balance were covered with a thick, porous cushion, as described on page 402.

I have just completed my "spring examination," removing every frame from every hive, and noting carefully the condition of each colony. A careful comparison of the results showed but little difference, with a slight balance in favor of absorbents.

I packed 26 colonies last fall, and have the same 26 colonies now, with a laying queen in each one of the hives. Isn't this a pretty good record for such a long, cold winter as the last, in latitude of 43½ degrees? Not so with all my neighbors' bees; some sustained a loss of 67 per cent. It pays to pack bees well in the fall.

J. P. SMITH.

Sunapee, N. H., May 1, 1893.

Bees in Good Condition.

My bees are in good condition this spring. I have a way of wintering bees on the summer stands that I never have seen described. I put the hives on four bricks, put old boards or bricks up close around the hive, dig a trench around, and bank the earth up around the hive, sloping it so as to run the water off. I fill in 6 inches of chaff over the brood-chamber. I have followed this practice for several years, and have not lost a colony yet. W. H. SOULE.

St. Joseph, Mo., May 3, 1893.

Conditions for Successful Wintering.

I think I have hit upon the right plan for successful wintering bees in my locality. In the fall of 1891 I put 4 light colonies of bees into the cellar under the house. I had given them young Italian queens in September, and as they had very little honey, I fed them about 15 pounds of granulated sugar made into syrup, per colony.

My cellar was infested with rats, so I drove stakes in the floor—which is sandy—so that they stood 2 feet high; on the top of these I inverted some old tin pans, and then laid two 2x4's, 16 inches apart, and I nailed them fast. I placed the hives across them, removed the oil-cloth above the frames, and raised the hives an inch from the bottom-boards, by putting blocks under the corners.

The bees came out in the spring in fine condition, and no spring dwindling. I fed them a little to stimulate brood-rearing, and increased to 15 good, strong colonies (all natural swarms but two), and they gave me over 200 pounds of nice comb honey in one-pound sections.

When I put them into the cellar on Nov. 15, 1892, three of them were light in stores, and I put on ½-story supers, and laid some partly-filled sections on the frames. One

of these colonies failed to get their feed, and starved. I lost one other colony which was queenless, but had six frames nearly full of sealed honey. The temperature in my cellar did not range above 45 degrees, Fahr., nor below 38 degrees. I took the bees out on March 31st—13 good colonies in fine condition. To sum up for successful wintering:

1st. Young or vigorous queens.

2nd. Feed before cold weather, if necessary.

3rd. The above conditions will give plenty of young bees.

4th. Moderate-sized colonies — not too many bees.

5th. Plenty of room between the bottom and hive, or use no bottoms in the cellar.

6th. Even temperature—40 to 45 degrees, Fahr. B. H. NEWLAND.

Melrose, Wis., April 3, 1893.

Loss from Wet Fall and Damp Cellar.

Of the 32 colonies which I put into the cellar on Nov. 20, 1892, only 17 came out alive. They had plenty of stores, but I lay the cause to the wet fall of 1892, and the dampness of the cellar on that account.

ALEX. F. KOPPLIN.

Zumbrota, Minn., May 3, 1893.

Good Report for 1892.

Last spring I bought 4 colonies of Italian bees, and put 13 into winter quarters last fall; this spring I have 12 colonies that wintered. I got 300 pounds of honey last year, besides the 9 colonies increase. I understand that 50 per cent. of the bees died in winter in this part of the country. Mine were wintered in cases on the summer stands. I think Mr. Johnson is mistaken about all the bees dying that were left out.

JERRY BARTLETT.

Audubon, Iowa, May 7, 1893.

Big Snow-Storm—Bottom-Boards.

We are now (April 21st) having the heaviest fall of snow, in the last 48 hours, that Minnesota has ever witnessed at this time of the year. There is frem 18 to 24 inches of beautiful white snow on the ground this morning. If the snow had been light and dry, it would have measured 36 inches deep, but it is not going to last long. It will retard seeding until about May 1st.

I put 24 colonies of bees into the cellar last fall, and all are alive but one, and they died for want of food. I put them out about April 10th, and the most of them had a good flight, and that night it rained and snowed and froze up, so I took all of my light ones into the cellar again, and am feeding them, but I have 12 still out under the snow.

On page 489 this question is asked: "Will the colony swarm?" I sent to Illinois last June and got two frames of bees and brood, and put one frame in each hive with a queen, and I see they are as heavy as any of my old colonies this spring. They don't often swarm, but usually fill the hive in fair season.

I have but one tight bottom-board, and as soon as the weather gets warm I shall loosen that. I like the bottom-boards so that I can change them when I think a new one is better. For wintering, some of my neighbors tier up the hives, with the top tight, and bottom-board off, piling them up three hives high, in pyramid shape, leaving a space between the hives of the two lower tiers. MARK D. JUDKINS.

Osakis, Minn.

The Origin of Foul Brood.

I have discovered the origin of foul brood. If any of the readers of the BEE JOURNAL know what it is, I will give them four weeks to reply through this paper, after the publication of this article, then I will give it to the public. C. P. HEWETT.

Kingston, Wis., May 5, 1893.

The Blast and Draft in Bee-Smokers.

Of course I have read with great interest Mr. Corneil's experiments with smokers. He states that I "do not deny the assertion in regard to blast." I will say that I have never denied, or compared either the honey-knife or smoker. In the 14 years we have been making them, we have received but one complaining letter, and that came indirectly and through interested parties.

What Mr. Corneil calls "indirect current," we demonstrated before bee-keepers heard of a Bingham bee-smoker or Direct Draft.

Direct Draft in bee-smokers is Bingham's invention, and the more direct it is, the better the smoker.

The "blast" is another thing, and old bee-keepers have regarded ours as sufficient and reliable.

I have had many letters suggesting different "blasts," and read of "continuous blasts," etc., in bee-papers. It would be easy to show why they were not adapted to the special needs of bee-keepers.

It is proper for me to express my gratitude to bee-keepers, to Mr. Corneil, and the *Review*. T. F. BINGHAM.

Abronia, Mich., May 23, 1893.

A Cold Place, but Bees Wintered.

I put 14 colonies of bees into the the cellar on Nov. 12, 1892, and on March 28, 1893, I took out 10 of them. They had a good flight, and I put them back into the cellar again that evening. On April 20th we had a snow-storm of 16 inches, so that made the season very late. We had nearly three feet of snow during the winter, and very cold—it got down to 32 degrees below zero. How would that do for wintering bees on the summer stands?

On April 29th I took out 7 colonies, 4 of them did not have a flight since Nov. 12th, or 136 days—more than that, as they did not fly for a few days before I put them into

the cellar. The other 7 I took out to-day. Those I took out on April 29th gathered the first pollen to-day from willows. Seven of the 14 are very strong, 4 are medium, and 3 are weak.

The sun has not been shining all day at a time for over a month. It rains or snows about four days in a week. Some of the snow of April 20th is with us still. The mercury hovers between 30 and 40 degrees above, but to-day it got up to 52 degrees, with prospects of better weather.

I like the AMERICAN BEE JOURNAL, but there are some things in it that won't fit this climate. When the mercury shrinks to from zero to over 30 degrees below, and stays below for a month at a time, and the wind blowing a gale for three or four days at a time. I think it would take a pretty tough bee, with good flannel clothes on, to stand it packed on the summer stands. But as a whole, the BEE JOURNAL is a *good* paper. Long may it prosper!

JOHN M. SEILER.

Chanhassen, Minn., May 2, 1892.

Large Yield from Clover Expected.

We have had a very hard winter on bees, and the loss has been very heavy. I have lost 8 out of 52 colonies. They were in poor condition this spring, but are building up fast. The strongest are making preparations for swarming. I think I will have some swarms by another week. The clover looks fine, and I expect a large yield from that source. WM. HOUSEL.

Wertsville, N. J., May 22, 1893.

Quite Heavy Losses—Rainy Weather.

Reports from bee-keepers around here indicate quite heavy losses the past winter. Some lost ¼, some ½, and some all. My own loss is but one colony. The bees came out for a flight the latter part of February, and one entire colony left the hive and entered another close by, that was the same color. That was all the loss I had in 10 colonies. They left about 25 or 30 pounds of honey. We are having very rainy weather, and fruit-trees are not yet in blossom.

J. R. COMMON.

Angelica, N. Y., May 17, 1893.

Uses Common-Sense Principles.

I have been working with bees for the past ten years. I keep about 30 colonies in "Modest" hives, and work for extracted honey. I winter my bees on the summer stands without much loss, without extra packing. I am not a specialist, but try to run them on common-sense principles, and they have given fair returns for my trouble.

We have a Mr. Shirley traveling the country over, transferring bees and selling a hive which he claims works wonders. He transfers all winter, and claims that is the right time for transferring! He says bees will build comb every month in the year in his hive! T. C. MOORE.

Green Hill, Ind., May 7, 1893.

Wintered in Fine Condition.

My bees came through in fine condition. They commenced gathering natural pollen May 1st. They had been working on bran since March 10th. I bought 75 pounds of extracted honey last week for 9 cents per pound. I hauled it 10 miles, and then sold it for 12 cents per pound. Comb honey is selling at 15 cents per pound.

My neighbors lost from ½ to ¾ of their bees the past winter. It is snowing to-day. We have had a very dry winter. There has not been more than three weeks at a time but what I have seen bees out.

In regard to that horse-blanket mentioned by Mr. Reynolds, on page 405, I would say that it was the sweat on the blanket. You may drive a dry horse right through the apiary, and the bees will not notice it; but drive a sweaty one within a few rods of a hive, and the bees will go for it at once.

C. C. ZINN.

New Windsor, Colo., May 8, 1893.

No Swarming in Four Years.

I have many queens that are doing excellent work, but I have one that I know to be four years old, that I wish to tell about. Her colony has never swarmed, but gives 200 pounds of honey each year. She is now occupying 32 Langstroth frames, and the last given them is nearly ready for the extractor. Now, don't everybody go to ordering non-swarming queens. If you knew as well as I do the cause of swarming, you would not want non-swarmers. Bees have been swarming all around me for two weeks. F. C. MORROW.

Wallaceburg, Ark., May 2, 1893.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

June 16, 17.—S. E. Kansas, at Bronson, Kans.
J. C. Balch, Sec., Bronson, Kans.

Oct. 11, 12, 13.—North American (International), at Chicago, Ills.
Frank Benton, Sec., Washington, D. C.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Great Premium on page 675!

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, May 27th, 1893:

CHICAGO, Ills.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

KANSAS CITY, Mo.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

CINCINNATI, O.—A short supply of extracted honey is the cause of a slow demand. It forbids an effort on our part to sell. It brings 6@8c. There is no choice comb honey on our market, and prices are nominal at 12@16c., in a small way.
Beeswax—Demand good, at 22@25c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Comb honey is well cleaned up. Fancy white is selling at 14@15c. Off grades, 12@13c., and buckwheat, 9@10c. Extracted is dull, and the market well stocked with West India honey, which sells at from 68@75c per gallon. Beeswax, 26@28c,
H. B. & S.

SAN FRANCISCO, Calif.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, Mo.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

CHICAGO, Ill.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It selis readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, Mass.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

MINNESOTA, MINN.—Honey is in good demand, especially for fancy white clover. There is considerable of the low grade on the market. Extracted is also improving in prices. Beeswax in light demand. Fancy white clover, in 1 lb. sections, 18c.; choice white clover, 16c.; golden-rod, 1 lb. sections, 13@14; dark, 12@13c. Extracted, 9@10c.
J. A. S. & Co.

ALBANY, N. Y. — Honey market is very quiet now, as between seasons. Beeswax—at 30@32c. for good color. H. R. W.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with Bee Journal one year, for $1.10.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.
R. A. Burnett & Co., 161 South Water Street.

New York, N. Y.
F. I. Sage & Son, 183 Reade Street.
Hildreth Bros. & Segelken,
28 & 30 West Broadway.

San Francisco, Calif.
Schacht, Lemcke & Steiner, 10 Drumm St.

Minneapolis, Minn.
J. A. Shea & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.
Hamblin & Bearss, 514 Walnut Street.
Clemoms-Mason Com. Co., 521 Walnut St.

Albany, N. Y.
H. R. Wright, 326 & 328 Broadway

Hamilton, Ills.
Chas. Dadant & Son.

Cincinnati, Ohio.
C. F. Muth & Son, cor. Freeman & Central avs.

Bee-Keeping for Profit.—We have just issued a revised and enlarged edition of Dr. Tinker's book, called "Bee-Keeping for Profit." It details his most excellent "new system, or how to get the largest yields of comb and extracted honey." The book contains 80 pages in all, and is illustrated. Price, postpaid, 25 cents, or clubbed with the Bee Journal for one year, for $1.15.

The Washington Convention Report is now in pamphlet form, and we shall be pleased to mail a copy to any one desiring it, for 25 cents. It contains 32 pages. As only a very limited number were printed, you should order promptly if you want a copy.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

TO EXCHANGE — High Grade Safety Bicycle, for Honey or Wax.
17Atf J. A. GREEN, Ottawa, Ill.

TO EXCHANGE — New Cowan Extractor for choice extracted honey.
22A2 J. H. & A. L. BOYDEN, Saline, Mich.

BARGAINS—Harbaugh stock. Lang. Brood Frames, 50c. per hundred in 500 lots. Imp. L. S. Supers, $3 for a crate of 25. Only a few at these prices. E. T. ABBOTT, St. Joe, Mo.

Convention Notices.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association on June 16 and 17, 1893, one mile west of Bronson. All are cordially invited to be present. J. C. BALCH, Sec.
Bronson, Kans.

INTERNATIONAL.—The North American Bee-Keepers' Association will hold its 24th annual convention on Oct. 11, 12 and 13, 1893, in Chicago, Ills. Not only is every bee-keeper in America, whether a member of the society or not, invited to be present, but a special invitation is extended to friends of apiculture it every foreign land, FRANK BENTON, Sec.
Washington, D. C.

Amerikanische Bienenzucht is the name of a bee-book printed in the German language, which we now have for sale. It is a hand-book on bee-keeping, giving the methods in use by the best American and German apiarists. Illustrated; 138 pages; price, postpaid, $1.00. It is just the book for our German bee-keepers. We club it with the BEE JOURNAL for one year, for $1.75.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

Advertisements.

50 Second-Hand Hives.

I **WILL** sell 30 New Heddon and 20 L. Simplicity hives. Frames filled with good straight combs, mostly wired, containing from 5 to 15 lbs. of honey to the hive. Price. of Heddon, $3.50, and L. Simplicity, $2.50 each. A discount of 5 per cent on orders for 20 hives and upwards. Will exchange for First-Class Incubator; Eggs for Hatching, of B. Leghorn and B. Plymouth Rock fowls; Italian queens, or a Spraying pump, as part pay for hives.

A. WORTMAN,
22A2t SEAFIELD, White Co., IND.

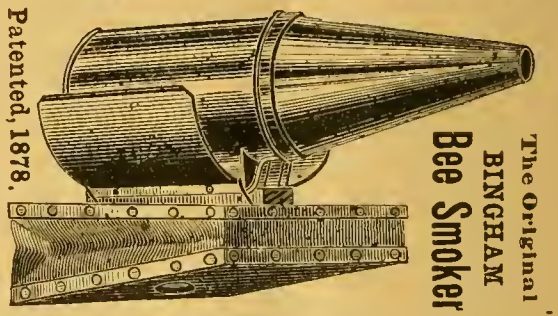
Mention the American Bee Journal.

COMBS & SECOND-HAND HIVES.

25 **2-story 9-Frame Langstroth Hives,** in first class condition. Also, **between 400 and 500 good Combs** (worth at least 10 cts. each) in which the Bees died the past winter. The outfit is well worth over $75.00. Will sell the whole for only $50.00. Speak quick, if you want them. Will be put on board cars at Wilmette, Ills., 14 miles north of Chicago. We are offering them for a friend of ours who lives there. Address,

GEORGE W. YORK & CO.,
- CHICAGO, ILLS.

Original, Unimproved BINGHAM BEE-SMOKERS



The perfect or improved series of Bingham Smokers, consisting of the 3 larger sizes with all improvements, will be sent by mail postpaid, as follows:

Large, $1.50; Conqueror, $1.75;
Doctor, the largest smoker made, **$2.00.**

More than 100,000

BINGHAM & HETHERINGTON

Honey-Knives
—AND—
Bee-Smokers

IN DAILY USE.

Illustrations sent free.

Bingham & Hetherington,
14Atf ABRONIA, MICH.

MORRIS CROSS-ROADS, Pa., May 15, '93.
T. F. BINGHAM:—
DEAR SIR—I receeived the Smoker in good order. The wire-handle and bent-tube are a great improvement. The wire-handle is a great convenience in removing the cone, entirely prevents burning of the fingers, and the bent-tube enables the bee-keeper to use the smoke just where he needs it, without any danger of soot, ashes or fire. It entirely does away with spoilt sections or the dropping of fire. I thought the old Bingham Smoker was good, and cannot see what the new one leaves to be desired. Yours truly,
R. W. HIGINBOTHAM.

Fine Italian Queens.

Tested, $1.00 each; Untested, 60c.
From Best Imported Mothers Only.

ALL young, and for Gentleness, Industry and Uniformity of Color, their Bees are unsurpassed. Safe delivery. Must send P. O. Money Order on Decatur, or remit by registered letter. **CLEVELAND BROS.,**
DECATUR, Newton Co., MISS.

Mention the American Bee Journal.

ESTABLISHED IN 1861

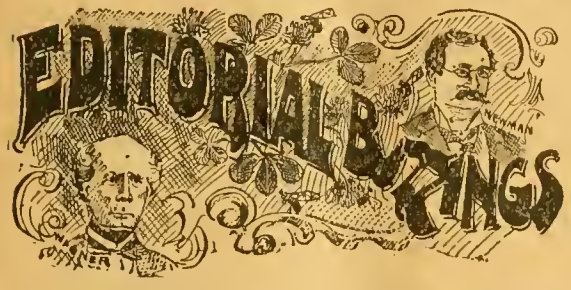
THE AMERICAN

OLDEST BEE-PAPER IN AMERICA

BEE JOURNAL

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., JUNE 8, 1893. NO. 23.



World's Fair Apiarian Exhibit.—On Saturday, May 20th, accompanied by Mr. W. A. Pryal, our jovial California correspondent, we visited the great Fair, and spent considerable time in the Agricultural Building, wherein are located the apiarian exhibits. After walking for a long distance on the first floor of the mammoth building whose area is a little over nine acres, we ascended to the second floor, at the eastern end of which is located the exhibits that will most interest bee-keepers.

Upon reaching the row of perhaps a dozen large glass cases built especially for the honey and wax exhibits, we found Mr. Allen Pringle and Mr. E. Whitcomb, the former having charge of the Ontario display, and the latter representing the progressive State of Nebraska.

At this time we will not attempt to give a minute description of the various apiarian exhibits already in place, but will reserve that for future numbers of the BEE JOURNAL. During the summer we will endeavor to give many interesting details of all the displays of honey, wax, and bee-appliances, and if possible to arrange, publish illustrations of them, which will aid those who may not be able to attend the Fair, as well as form a record for preservation.

We may say now, however, that the States of Nebraska, Wisconsin, New York, Iowa and Ohio have their exhibits of honey and wax either wholly or partially completed. Mr. Pringle was at work arranging a series of long tables, one above the other, within Canada's glass case, each table or stand being narrower as the tier neared the top of the case.

The cases are made of sliding glass doors, built upon a box elevation of perhaps three feet. All is made tight, so that no dust can get in where the honey and wax are placed. The glass doors can also be locked up, so that none of the exhibits may be carried off, or be handled in any way by those who view them. The cases are each 25 feet long, 7 feet high, and 4⅓ feet wide, inside measurement, and, with their contents of tempting sweets, present a most pleasing appearance.

Bro. A. I. Root had his exhibit of bee-supplies all in place. It is an instructive display, showing every implement and article used in a complete modern apiary, all arranged in such a way as to be seen at the best advantage. This exhibit is enclosed in a three-sided glass case, built against the outer wall of the main structure.

Among other exhibits of bee-supplies were those of Messrs. E. Kretchmer, of Iowa; Chas. F. Muth & Son, of Ohio; C. H. Putman, of Wisconsin; Lester L. Price, of Nebraska; A. G. Hill and G. K. Hubbard, of Indiana; and The Falconer Mfg. Co., of New York. As before mentioned, we will give detailed description of these and other apiarian exhibits later.

One Cent Postage Stamps we prefer rather than two cent ones. When sending fractions of a dollar, please send us the one cent stamps.

The Illinois Apiarian Exhibit at the World's Fair is now being arranged for. We have received a circular from Mr. Jas. A. Stone, Secretary of the State Bee-Keepers' Association, in which are given the Rules and Regulations for the Apiarian Exhibit of the Illinois State Bee-Keepers' Association, to be made at the World's Columbian Exposition, May 1 to Oct. 31, 1893.

The following is a copy of the circular sent out by Mr. Stone, and should be read by every subscriber to the BEE JOURNAL in Illinois:

To the Bee-Keepers of Illinois:

By an Act of the Illinois Legislature a sufficient sum of money has been appropriated to enable the Executive Committee of the Illinois State Bee-Keepers' Association to make a creditable exhibit of the apiarian products of the State of Illinois, in the National Agricultural Building of the World's Columbian Exposition.

The rules of the Department of Agriculture are given below.

It will be the aim of the Executive Committee to conduct the exhibit in such a manner that it will result in the greatest good to the apiarian industry of the State.

The rules of the Board of Control of the World's Columbian Exposition require all exhibits to be made in the names of the individuals exhibiting, and all awards must follow the decision of the national judges.

The committee propose to forward shipping-tags to all exhibitors, requiring them to carefully pack, prepay freight, and forward duplicate receipts to the Secretary of the Illinois State Bee-Keepers' Association, care of W. I. Buchanan, Chief of the Department of Agriculture, World's Fair Grounds, Chicago, Ills.

The Committee will pay all freight and expenses incurred in connection with the said exhibit, and will dispose of all the apiarian products consigned to them to the best advantage, and return the proceeds to the exhibitor; or they will, on his choice, be returned to the owner at his expense.

In case a shipment should not reach the Exposition in presentable condition, the Committee will dispose of the same to best advantage, and return the proceeds to the owner—which will not prevent him from sending another shipment in the same line.

Bee-Keepers of Illinois! Never before have we had such an opportunity to show our products to the world.

We must have the best the State can produce, and plenty of it, that we may maintain our reputation, and receive a large share of the awards.

We urge upon you the importance of the occasion, and ask you to send application for entry, and your assistance in distributing this circular, that a large proportion of the bee-keepers of the State may be represented. Either the President or Secretary of the Illinois Bee-Keepers' Association will be in charge of the exhibit.

Special Rules and Information Governing the Exhibit of Bees, Beeswax and Bee-Appliances.

1. Exhibits of Honey will be classified as follows:

Class 1—Clover and Basswood.
Class 2—White Sage.
Class 3—Buckwheat.
Class 4—All light honey, other than enumerated in Classes 1 and 2.
Class 5—All dark honey, other than enumerated in Class 3.

2. Exhibits of honey produced in 1892, or earlier, must be sent in as soon as possible.

3. Exhibits of Honey in Classes 1, 2, and 4, produced during 1893, will be received between July 15th and Aug. 15th; and in Classes 3 and 5, between Aug. 15th and Sept. 1st, 1893.

4. The following information should accompany each exhibit:

(a)—Kind of honey.
(b)—Name of exhibitor.
(c)—Place where produced.
(d)—Character of soil in locality where produced.
(e)—Variety of bee.
(f)—Name of plant from which honey was produced.
(g)—Yield per colony.
(h)—Average price of product in nearest home market.

5. The dimensions of cases in which exhibits will be made are as follows: Inside measurement—width of case, 5 feet; height, 6½ feet; total height of case, including base, 8 feet.

6. Individual exhibits of comb honey will be limited to 100 pounds, and may be made in any manner the exhibitor may desire, subject to the approval of the chief of the department.

7. Individual exhibits of extracted honey must be made in glass, and must not exceed 50 pounds.

8. Individual exhibits of beeswax must not exceed 50 pounds, and should be prepared in such a manner as will add to the attractiveness of the exhibit.

9. Exhibits of primitive and modern appliances used in bee-culture, both in this country and abroad, will be received, subject to the approval of the chief of the department.

10. Special arrangements will be made by the chief of the department for a limited exhibit of bees.

11. Collections of honey-producing plants, suitably mounted and labeled, will be accepted if satisfactory to the chief of the department.

Please make your application *immediately*, that shipping-tags may be sent you, and full directions given.

For further particulars address,

JAS. A. STONE, *Sec.*

Bradfordton, Ills.

An Abnormal Season is what they have had so far this year in England. It has been unusually dry, and rain was needed very badly in May.

Preventing After-Swarms.—Bro. Hutchinson, in the *Review*, gives the following plan, by the use of the bee-escape:

Frank Coverdale writes me that he has prevented after-swarming by hiving the swarm on the old stand, then placing the old hive by its side with its entrance near that of the newly-hived swarm. The old hive is then closed, except that a bee-escape is placed in the entrance on the side next to the new hive. Of course, every bee that leaves the old hive never gets back, but finds its way into the new swarm. All of the working force, and all of the young bees when they come out to play, are thrown into the new swarm.

In seven or eight days the old hive can be given a new stand, the same as in the Heddon plan, but it will be completely robbed of all the bees except the young, downy, just-hatched ones, which is not the case with the Heddon plan, and after-swarming will positively be prevented in *every* case.

If no increase is desired, the escape can be left in place for a longer period, 21 days if the weather is warm, or, if it is cool, it may be taken away at the end of two weeks.

When the bees have all hatched out, the few remaining may be shaken off in front of the new swarm, and the honey extracted from the combs, or they can be used in any way thought best. Or the matter may simply be carried to such an extent that the old colony will be so weakened that not only will it not swarm, but it will not be sufficiently populous for winter, but will still be able to care for and protect the combs until fall, when the two colonies may be united, the better queen being preserved.

Introducing Queens.—The following directions for introducing queens we found printed on a queen-shipping cage recently:

After removing the cover, note the condition of the queen, and if she is all right, proceed to introduce her. First remove the slip of card from the end of the cage containing the candy. Lay the cage on the frames directly over the cluster, wire-cloth down, so the bees can become acquainted with the queen; cover the cage with the enameled cloth, or quilt, put on the cover, and do not molest the hive under any circumstances for five days, at which time you will likely find her out and laying. If you have a flat cover on your hive, just tack a thin strip of wood across the back of the cage, spread the frames, and hang the cage, face down, between the frames. Before introducing, be sure your colony is queenless.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Just a Word with You.

We mean with the readers of "General Questions." This department is meant for the benefit of all who may wish to avail themselves of it, and we wish our readers to feel the utmost liberty in sending in any questions to which answers are desired. Don't feel that you are intruding—we desire the questions as much as you desire the answers. This department lays no claim to infallibility, and it is possible that some of your questions may be too hard for it, but it does desire to be honestly helpful just as far as its ability goes.

Now a word as to the manner of sending your questions: Before us lie questions from two different persons. One of them is scribbled in pencil on what appears a scrap of waste-paper, somewhat crowded for room, and so hard to decipher that some words cannot be made out at all only as they may be guessed at from the connection. It is a real relief to turn from that to the other, which is written with some appearance of care, the writing being so plain that any schoolboy could read it. Now all cannot write like copper-plate, all cannot avoid mistakes in spelling, but please do what all can do, and that is, to make your questions just as plain as you can.

If you specially desire that your questions shall be answered in this department, just say "For General Questions." Also, please do not get in a hurry for the reply, as questions must take their turn, unless it be those that will not become worthless by a short delay, and thus can be put aside a time for such as are necessary to be answered at once in order that the reply be seasonable.

Drones and Swarming—Dead Bees.

1. Do bees ever swarm after they begin to drive off the drones? "A B C of Bee-Culture" says for the time being, but mine are at it now, and I had swarms in June, in 1892.

2. What was the matter with my bees? In February we had some warm days,

and I had one colony to bring out lots of dead bees, more than was usual. It was a small colony, and there were 150 bees dead with their heads to the bottom of the cells, and sealed honey around them. Their combs were clean, and the queen was dead. M. W. GARDNER.

Bankston, Ala., May 20, 1893.

ANSWERS—1. Yes, if there comes a dearth after drones appear, the workers may kill them off, and swarm when a new lot is reared.

2. It is nothing unusual for bees to carry out their dead when a warm day comes in winter. An unusually long spell of confinement would make an unusual number. Sometimes a small cluster gets separated from the main cluster and are found dead. In the case you mention, the number of bees may have been so small that they could not keep up sufficient heat.

Keeping Bees on Shares.

I have taken four colonies of bees on shares. The agreement is that they are to swarm once, and are to be worked for comb honey. The question is, would you, under these circumstances, put on any sections before they swarm, or wait until afterward?

The share that each gets is half the swarms and half the surplus honey.

Waupaca, Wis. SAMUEL TAYLOR.

ANSWER—One of the hard things to answer is a question about bees on shares. Unless everything is definitely agreed upon in advance, and put down in black and white, with such a variable factor as a colony of bees there is likely to be misunderstanding and trouble.

Your agreement seems to be an original one, that the bees "are to swarm once," and one would conclude that you are expected to make them swarm once, but you say nothing about the penalty in case you fail to make them swarm, nor what is to be done in case the little creatures take it into their heads to swarm more than once. Doubtless all second swarms can be prevented, but there do happen cases—would that they might happen oftener—in which bees stubbornly refuse to swarm. Suppose there comes one of those bad seasons when bees do not make a living, to say nothing about swarming, at the end of the season you are bound to return the four colonies together with four additional, and not one has swarmed, where are you? We know of a certain enthusiastic beginner in Iowa who took bees on shares with a somewhat similar agreement, and he actually had to give up all the bees he had and buy more to make good his agreement.

So you see it's a hard matter to answer your question without knowing what is to happen if you don't succeed in making the bees swarm. But the probability is that they will swarm more than you desire, and it may be your safest plan to put on supers before swarming.

Getting Rid of Black Drones.

How do the bees get rid of black drones, old and young, when Italianizing an apiary? R. C. FOWKE.

Baldock, S. C.

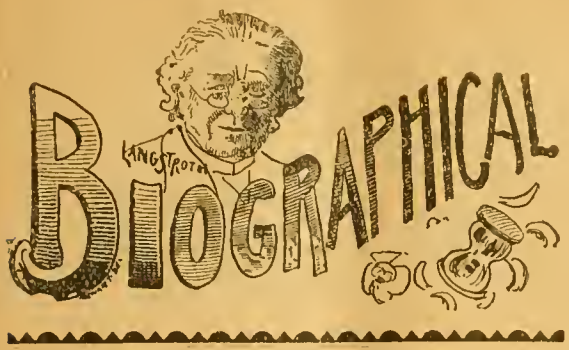
ANSWER.—The easiest answer to your question is to say, "They don't." That is probably the true answer in most cases. Even if you get rid of all objectionable drones in your own apiary, they may come from other apiaries about you. But with enough care it may be possible to control the matter entirely in your own apiary.

In the first place, prevention is better than cure. See that no drone-brood is allowed to hatch out. Slice off the heads of all sealed drone-brood. While you are at it, it may be well to cut out all drone-comb, putting in its place patches of worker comb.

But bees are very persistent in rearing drones, and if you leave them no drone-comb they will rear a few drones here and there in a very troublesome way. Doolittle's plan is to leave about an inch square of drone-comb in the hive to satisfy them, then you will know right where to look for drone-brood, and can shave off the sealed brood about every three weeks. To get rid of what are already hatched out, use the Alley drone-trap.

"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.70.

"Bees and Honey"—see page 707.



J. H. LARRABEE.

Mr. Larrabee, the subject of our sketch and picture this week, is one of the newest additions to our corps of query answerers. We had the very great pleasure of making his acquaint-

J. H. LARRABEE.

ance in October, 1892, at the meeting of the Illinois State Bee-Keepers' Convention here in Chicago. We had quite a visit with Mr. L., and felt that in him we had indeed found a good friend.

Mr. Larrabee has written perhaps more for the *Bee-Keepers' Review* than for any other bee-periodical, though the BEE JOURNAL has often been favored with contributions from his graceful pen and brilliant mind.

He was born at Niles, Mich., on Sept. 14, 1862. At an early age his parents removed to Vermont, where "J. H." went through the usual experiences of boyhood on the farm. At 14 years of age he was sent away to school, where he remained in academy and college for four years. After about three years of teaching school, chancing to be at home one spring he became interested in the bees and their intelligent management. With regard to his early experiences, Mr. L. writes:

"Well do I remember the first copy of the AMERICAN BEE JOURNAL I ever saw. I carried it to the field one day, to read when resting the horses at the end of the furrow, and accidentally dropped it in the mud. I can still find the marks of the fall upon this first copy."

His progress was rapid, as he adopted the chaff-hive system of wintering bees, and lost few bees in winter, while the excellent white clover and linden forage gave ample encouragement, from a worldly view.

During the past five years of general depression in the bee-business, his bees have not only paid all expenses, but wages of at least $50 per month for all the time spent with them. This fact proves not only that the Champlain Valley is worthy of the reputation it bears as an excellent locality for bees, but that proper care at the right time, and with a system that has something of system in it, are large factors contributing to success in bee-culture.

He has explained his system several times, wholly or in part, in the bee-papers, and, as he himself says, the only thing specially meritorious about it is that it *is* a system for the whole year, and that it is carried out practically, and all short-cuts to lessen work are thus taken advantage of.

For the past six years Mr. L.'s apiary has contained from 80 to 130 colonies of bees; and for the past four years he

has run an out-apiary of about 30 colonies for extracted honey.

In August, 1890, he became acquainted, personally, with the junior editor of *Gleanings in Bee-Culture*, Mr. Ernest R. Root, and in November of that year, when Prof. Cook was searching for an assistant in conducting the experiments in bee-culture that were undertaken by the authorities of the Department of Agriculture at Washington, Mr. Root referred him to Mr. Larrabee, and after inquiries, he was asked to fill the position, which he did to the best of his ability for two years, when the station was discontinued. The report of his experiments for 1892 will be printed, we think, in Bulletin No. 28 of the Department of Agriculture, soon to be issued.

Mr. L.'s present home is in Lansing, Mich. Although he is not, the present season, engaged in bee-culture, he retains his interest in the pursuit, and reads all the principal apiarian periodicals, so far as time will permit. His younger brother, Wallace, at Larrabee's Point, Vt., has charge of his bees, and he considers himself very fortunate in having a brother who can be depended upon to carefully care for his pets. W. G. Larrabee follows his brother in his love of the bees, and owns about 60 colonies himself.

Mr. Larrabee bears an untarnished record wherever known. He is unmarried, which, we think, must be wholly from choice. More will be heard from him bye-and-bye, we are led to expect, and we also sincerely hope.

Mrs. Jennie Atchley will attend the meeting of the horticultural society at Rockport, Tex., on June 20th. Bee-keepers will unite in the meeting, and a grand time is expected. A steamer will be placed at the command of the meeting, to be used on the Ocean as they may choose. Better go if you can, and have a good time, as well as get intellectual profit.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Texas State Bee-Keepers' Convention.

For the first time in many years I attended the Texas Bee-Keepers' Convention, its last meeting being held at the apiaries of W. R. Graham and Mrs. Jennie Atchley, in Greenville, Tex. There, in a beautiful grove of large oaks, surrounded by the busy bees, we went on April 5th and 6th, 1893. The weather was like summer, and the hum of the millions of workers was encouraging music to our ears. It filled me with the happiness and zeal of former days. The meeting was in the neighborhood in which I had lived for ten years, and the meeting of old friends and neighbors made it doubly interesting to me, since all evinced a real and undisguised pleasure in welcoming me. The days of our early acquaintance were gone over again, and it seemed more like a family reunion for pleasure than for the discussion of the subjects, for which we have assembled.

While Time had removed from us many of our most zealous workers, and wrought changes in the appearances of persons and places, yet that same confidence and affection existed, such as no calling or profession recognizes with that mutual feeling of friendship, like that of bee-keepers, more especially in our beautiful Southern home—our own beloved Texas. Too much cannot be said for our host, Wm. R. Graham, and hostess, Mrs. Jennie Atchley, who had taken careful pains to see that every arrangement for our accommodation and pleasure was complete, and to them we owe, in a great measure, the success of our meeting.

Bro. Graham is one of our oldest and most successful bee-keepers in the South, he is always "at home" to bee-keepers, naturally generous, and is in the zenith of his glory at a "bee-meet-

in'." He showed us through his supply factory, which he told us must be run day and night to keep up with the orders, and while it appeared to one who knew little of the demands of bee-keepers, that the stock on hand would supply every bee-keeper in the State for years, yet he assured us that he would, owing to the increasing demand, be compelled to put in a larger engine and increase his facilities in every direction; clearly illustrating the fact that these conventions have been the means of developing some of the best bee-keepers and most extensive apiaries in the South.

Through the kindness of Mrs. Atchley and her interesting family of queen-breeders, for every child from the oldest to the youngest handles bees like professionals, we were shown through the apiary; the beautiful queens from which are bred annually thousands of fine queens, the bright 5-banded workers, their gentle manners, being manipulated without smoke, all tended to prove the value of this strain.

While these little kindnesses shown us by the "out-door department," had their effect toward making the meeting a success, yet they bear only a passing interest when compared with the "bill of fare," and the manner in which it was served. In the announcements published, the password was, "No hotel bills," and be assured that Delmonico could not have served a *menu* that would have been appreciated by bee-keepers with such a relish. We are nothing if not chivalrous, and many of our lady friends showed their appreciation, in accompanying their husbands and sharing in their enjoyments.

(DR.) WM. R. HOWARD.

Fort Worth, Texas.

Mutual Aid, or Helping Each Other.

The following essay was read at the Texas State Convention held on April 5th and 6th, at Greenville:

It is with pleasure and great joy to me to be blessed with the privilege of meeting so many bright bee-keepers' faces. Let us endeavor to help each other, especially in this our loving pursuit—bee-keeping—and may we each and every one ever be ready to assist each other, and to bear one another's burdens in this great cause of apiculture in the South.

Let us all remember that our Sunny Southland is the paradise of the honey-bee, and I ask the co-operation of all present to assist me in this grand work of building up bee-keeping in the South. Let us know no North, no South, but may we work together as a band of brothers and sisters, and by our mutual assistance may we ever be made to rejoice that we have been the means of helping others along in this work.

In conclusion I ask the assistance of all present to help me in making the department of "Sunny Southland" in the AMERICAN BEE JOURNAL what it ought to be—a prize and a help to further the cause of bee-keeping in the South.

I wish to state that I would be glad to make the personal acquaintance of every bee-keeper here, and ask you before you leave, to come into my office and give me a shake of your hand. If there are any here that wish to subscribe for the "Old Reliable," I am ready and willing to take your names, and count you one of our band, and for an inducement I am prepared to give you the weekly AMERICAN BEE JOURNAL for one year for $1.00, and also a 200-page bee-book as a premium. I would be very proud, indeed, if every bee-keeper here would take it, as through its columns I hope to become more and more acquainted with you, and assist you all in my power to make your bees pay, and to give you value received when you read the AMERICAN BEE JOURNAL.

JENNIE ATCHLEY.

A Report from Tennessee.

The past winter was unusually severe, and as the fall crop was remarkably short, many bees died in this locality. I went into the winter with 78 colonies—some of them were nuclei—and have come so far with a loss of only 12. I need not have lost any if I had fed at the proper time, and in sufficient quantity. Several colonies that appeared good and strong last year, and from which I took no surplus, starved out before I knew of their necessities.

Feeding can be done here almost any time, if proper judgment is exercised. As an illustration: When the mercury was dancing around about 6° above zero at night, I knew some of my weak colonies were about gone up, so when the sun came out in the middle of the day, I examined them, and finding one in which more than half of the bees had starved, I gave them a frame of sealed honey, pushing it close up to the cluster. I think there was not more than a quart of bees living at the time. By abundant

feeding of syrup as soon as the weather would permit, they have prospered, and are coming on excellently.

FEEDING BEES.

I have tried putting syrup in empty combs, and hanging in the hive, but this is entirely too much trouble. The easiest and quickest way to feed with no special expense for feeders, is to set three or four cheap wooden dishes—such as grocers have to put butter in—upon the top of the brood-frames, put in some grass or weeds for "foot logs" for the bees, and pour in the syrup.

Ordinary porcelain bowls will do if you are sure to press the grass down well, and put in enough for it to fill up and hang over somewhat, for the little "ladies" to climb by. On pouring in a second time, use care not to drown the bees in the bottom of the dishes or bowls.

SYRUP FOR FEEDING.

My experience is that to put a lot of granulated white sugar into a tin bucket, and pour in enough warm water to dissolve it when stirred, makes it a first-class syrup for bees. I have been feeding considerable for nearly a year, and I have never known of its granulating yet. If I am in a hurry, I do not even heat the water.

THIS SEASON—PROSPECTS, ETC.

We had ten days of good weather during fruit-bloom, from about the 1st to the 10th of April; then cold, rainy, windy, and but little chance for work. Two days now bees have done some good work. Locust is beginning to bloom, and I think poplar also, but I have not been to the woods to investigate. I have had only one swarm so far—on the 18th. It weighed 4½ pounds.

Several cold days coming on, I had to feed. On examination this evening I found 3 colonies in destitute circumstances, and ministered to their wants.

I am a bachelor, and somewhat bashful in the presence of ladies, but I must thank the editor for assigning me to the care of Mrs. Atchley. Many perhaps will recall the fact that I was given an introduction to "Sunny Southland" when I wrote some months since.

LEWIS K. SMITH.

Gainesboro, Tenn., April 25, 1893.

Have You Read that wonderful book Premium offer on page 707?

Honey an Animal or Vegetable Substance.

Query 874.—Is honey an animal or vegetable substance?—W. D.

Both.—S. I. FREEBORN.

Vegetable.—M. MAHIN.

Vegetable—E. FRANCE.

Vegetable.—P. H. ELWOOD.

Vegetable.—DADANT & SON.

I don't know.—C. C. MILLER.

Vegetable.—J. H. LARRABEE.

Vegetable.—WILL M. BARNUM.

Vegetable.—MRS. J. N. HEATER.

First, vegetable.—J. M. HAMBAUGH.

Vegetable, and *not* "*digested* nectar."—J. P. H. BROWN.

It certainly isn't animal, unless bees *make* honey.—EUGENE SECOR.

Largely vegetable, with a small trace of animal substance.—H. D. CUTTING.

The nectar used in producing honey is from a vegetable source.—G. M. DOOLITTLE.

Vegetable. It is the product of a plant, gathered by a bee.—MRS. L. HARRISON.

In so far as it is gathered from flowers, of course it is vegetable.—R. L. TAYLOR.

We will believe it is vegetable until we have evidence to the contrary.—JAS. A. STONE.

A vegetable substance, more or les modified by animal secretions and diges tive processes.—JAMES A. GREEN.

Honey is the inspissated nectar of flowers, and though gathered by bees its origin is vegetable.—G. L. TINKER.

Like the sugar which comes from the starch in our own digestion, I should call it a digested vegetable.—A. J. COOK.

If honey is digested nectar, I *guess* it's an animal substance. When I have digested food it becomes most thoroughly animal.—A. B. MASON.

Honey is in no sense an animal substance. It is principally vegetable glucose. The water and some minor salts are mineral.—C. H. DIBBERN.

Honey from flowers is purely vegetable. Honey that exudes through the leaves of plants, caused by lice, or other insects, may be called "insect honey."—MRS. JENNIE ATCHLEY.

Neither. Honey no doubt is of a vegetable nature. It is secreted by vegetables, and gathered by animals, passing through some changes in the process. Exactly what these changes are is not fully known. Some of us think we know what they are *not*.—EMERSON T. ABBOTT.

Vegetable. It the natural secretion of flowers, gathered by the bees. Whether any chemical change takes place or not in the stomach of the bees while conveying it from the field to the hive, is a mooted question. In no case, however, can it be an animal substance. —J. E. POND.

It is vegetable, pure and simple. Honey is nectar secreted by nectar-bearing plants and trees, collected by bees and evaporated and cured by them. It takes on by absorption more or less of formic acid by reason of being in contact with the heat generated by the bees. This can be proven by evaporating sugar syrup over a strong colony of bees with wire-cloth between the bees and the syrup.—G. W. DEMAREE.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

June 16, 17.—S. E. Kansas, at Bronson, Kans.
J. C. Balch, Sec., Bronson, Kans.

Oct. 11, 12, 13.—North American (International), at Chicago, Ills.
Frank Benton. Sec., Washington, D. C.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Progression in Bee-Culture—Hive-Invention.

Written for the American Bee Journal
BY JOS. E. POND.

Prior to the introduction of the movable-frame principle, the science of bee-culture, although at the hands of the late Quinby, of Langstroth, and a few others in the United States, and of Dzierzon and Huber on the other side of the water, had been decidedly advanced from its prior position, yet so far as the general public is concerned, it was but little understood or appreciated.

The difficulties attending scientific investigation and research were so great, that the large majority had neither the time nor the means of accomplishing anything of lasting value. It is true that some of the principles that lie at the bottom of, and form the foundation to, the business, were partially understood, and to some extent were promulgated, but superstition, prejudice and ignorance on the part of the masses, fostered by a few humbug bee-quacks, had taken so strong a hold upon the minds of the majority, that even a slight step forward was looked upon with distrust; and this is so true, that even when movable-frames were first introduced by our own prince of apiarists, Langstroth, they were looked upon with the same suspicion that they are viewed by the few, who, it would seem, prefer remaining in ignorance, rather than to become educated as they might.

This ignorance and prejudice was fostered, to a great extent, by the fact that every "new thing" in the way of a hive, or of a fancied improvement, was at once covered by a patent, and "farm rights" were hawked around the country, to be found, on investigation after sale, of no value whatever, thus causing the purchasers to lose faith in invention, and their fellow men.

Now, while I myself, as I have many times stated, am in favor of patents,

and believe fully that every one should be as much protected in the labor of his brain, as in that of his hands, still I also believe that the application of the patent law as made to apicultural implements, has done much toward preventing advancement in the science of apiculture; and further, I believe that so long as the public are constantly threatened with suits for damages, by those who have secured patents on combinations of old principles of value, in connection with some new feature of no practical value whatsoever, that advancement will be slow, and real progress retarded.

What gave the impetus to bee-keeping as a science? Was it not the introduction of the movable-frame principle? And what really valuable step in that direction has been taken since that introduction? At least what so-called improvement has been made, that has been of any real, positive benefit? I confess I am unable to learn of any. It is true that in some minor points, improvements have been made, but those improvements have not been the result of the working of any one particular mind, but are the aggregation of the workings of many, each contributing a small share in producing the grand result.

The arguments and claims that are being made at the present time, in regard to the actual ownership of this or that feature, seem to be overshadowed in the minds of the people by the query of, What do they amount to, after all? Great claims are made for them, and great results promised by their use; but let us inquire if any better results have ever been accomplished by the use of these much-lauded "patented things," than in the use of the frame hives that have been before the public since the original was introduced by Father Langstroth. If they have, where is the record? I am anxiously looking for it; it has been promised frequently, but the promise is not yet redeemed by fulfilment.

All I can say is, there are now in use many unpatented hives that have recorded better results than I know of being made by those patented of late, and from which we were promised such immense gains. These old hives are the very ones that have been the means of giving the general public that enlightment it now possesses; and until something is offered in their place, with a proved record of superiority, it looks to me like the height of foolishness to discard them for the new, simply because they bear the magic imprint—"Patented."

I write in the interest of no one; I assail no one; I stand on the broad ground of historical fact, and ask—In what have I stated an untruth, or been guilty of endeavoring an error? If I am right in my position, my work is a public benefit; if I am wrong, show me the proofs, and I will retract. Till such proof is offered, I consider that I am but doing a duty in presenting my views to an intelligent public, and am ready to stand by its verdict.

North Attleboro, Mass.

Something About the White Sage of California.

Written for the American Bee Journal

BY C. W. DAYTON.

That renowned California white sage is now (May 20th) approaching an endless sea of bloom, and why the bees do not gather honey from it is a most profound mystery to me. I examined it this morning, yesterday, day before yesterday, and several other times before that, and honey is so abundant in the flowers that I could plainly see and taste it—in fact, there is a small drop in each blossom, and from three to five blossoms would make a good load for a bee.

In all I have only seen two bees at work on it, while this morning, in ten minutes time, I saw four humming-birds and two very large jet-black bumble-bees, and they were very busy, so busy that the humming-birds continued to visit the blossoms right close by me. Ants are also busy on it.

The bees are gathering honey very slowly from wild alfalfa, which is about like heart's-ease in quality, and amber in color. Black or burr sage has been in bloom for some time. The bees work on it considerably, but I can see or taste no honey by examination of the tubes. I believe if my bees were in a location where there was nothing but white sage (and such locations are hard to find), perhaps they would work on it, and they would be able to fill the hives rapidly where it is more a matter of waiting and hoping than anything else to see them fill up from wild alfalfa, horehound, oranges, etc.

If white sage is so beneath the notice of our common honey-bees, and so attractive to humming-birds, bumble-bees and ants, I wonder what *Apis dorsata* would think of it. Several colonies of

Punic bees I know in this neighborhood have the reputation of storing more honey than other bees last season, and I suspect it was from white sage.

That nameless disease, or bee-paralysis, has attacked about 15 of my colonies. In the colonies attacked, the bees all wear yellow stripes, while out of 60 colonies that show no yellow stripes at all, all are healthy and vigorous.

Pasadena, Calif.

Puzzled on Reproduction in Honey-Bees.

Written for the American Bee Journal

BY DAVID K. BRIGGS, M. D.

Having lately caught the "bee-fever," I have read everything in reference to bees with a great deal of enthusiasm, but I have recently run across a statement that sets all the accepted laws of reproduction at variance, that I write for further information and enlightenment on the subject.

On page 16 of "Bees and Honey," in speaking of the egg-production of the queen, the author says: "Each egg, which receives one of the seminal filaments in passing, will produce a worker or queen, while an unimpregnated egg will produce only a drone. The spermatheca of an unfecundated queen contains only a transparent liquid with no seminal filaments, and the eggs of such a queen produce only drones."

Again, on page 462 of the AMERICAN BEE JOURNAL for April 13th, Mrs. Jennie Atchley says: "I noticed that every single queen that became stimulated for egg-laying, never became impregnated, but was always a drone-layer."

It has been generally accepted as a fact that it requires impregnation from the opposite sex before reproduction can take place, be it flowers, insects, animals, etc., and I did not think that bees were an exception to this rule. While intercourse is not necessary for egg-laying, it is absolutely necessary for fecundation. If some one should tell Mrs. Atchley that if she kept no rooster with her hens, that if she would set the eggs they would hatch out all roosters, she would laugh at the idea.

I think that where a queen was stimulated for egg-laying before mating with a drone, that *after* she *had mated* her eggs would be more likely to hatch out drones, than in a queen which had mated before becoming stimulated for egg-laying, as suggested by a theory lately advanced, "that the greater the passion of one of the parents, the offspring would be of the opposite sex."

Blackville, S. C.

[The fact that a queen that has never met a drone may lay eggs which will hatch, was fully established by the great bee-master Dzierzon 40 years ago. It was bitterly opposed for a time, but the introduction of the Italian bee gave opportunity to settle some of the chief points at issue in the Dzierzon theory, and all intelligent apiarists soon gave in their assent. Other points of great interest are involved, and whoever wants to have an intelligent understanding of the subject should not fail to invest 15 cents in the little book containing the "Dzierzon Theory," which can be had at the BEE JOURNAL office.—ED.]

Report of Experiments in Wintering Bees.

Written for the American Bee Journal

BY B. TAYLOR.

Nearly all apiarists agree that successful wintering is one of the most important questions connected with bee-keeping. There is more loss from failure in wintering than from all other causes combined. There has always been much difference of opinion among leading lights as to the real cause of bad wintering. Some apiarists laid the cause to lack of ventilation in wintering-cellars; others, to the over-abundant supply of pollen; others, to poor food—honey-dew, late fall honey; too much ventilation of hives; too little ventilation; and many other fancies have been brought forward.

Lately sealed covers have been brought forward as a great remedy for winter troubles. Books have been printed and widely advertised recommending this new discovery. This new theory was from the first, to my mind, contrary to both theory and practical experience, yet I gave it a thorough trial, only to meet with severe loss.

In the fall of 1892 I resolved to begin a series of more careful experiments in regard to the part the preparation of hives themselves played in wintering. I had, what I have now reason to believe

to be a fact, a wintering-cellar as nearly perfect as present knowledge permits, hence any cause of loss would be in the condition of the colonies and hives themselves, and not in the place they were kept. So I resolved to try several plans of preparing the hives for winter.

No. 1.—I prepared 25 hives as follows, and placed them in one division of my new cellar: I gave each colony two sections of my double hive, removing two combs from each section, and leaving eight combs in each. These eight combs were spread to fill the 10-frame hive. The hives were raised two inches from the bottom-board; when all was quiet, a piece of light cotton cloth was spread over each hive, and on top of this was placed a shallow box (3 inches deep) full of sawdust. The entrances at the bottom were left open the entire width of the hive, front and rear. Now, remember these colonies were each left on 16 combs in two sections of a shallow hive, thus making very roomy quarters. Each had large stores of sealed honey, mostly in upper sections. The temperature was about 42°, without 2° of variation.

No. 2.—I next prepared 25 hives exactly as in No. 1, except that the solid hive covers were left on, and then four strips of wood 1/25 of an inch thick were used, one under each corner of the cover, raising it slightly from the hive top, and leaving a little ventilating crevice on all sides of the top of the hives. They were placed in the same apartment of the cellar as No. 1.

In the other apartment of the cellar 20 hives were placed with sealed covers on, just as the bees had left them. The covers were ⅞-inch boards, and the hives were full brood-chambers, holding 10 frames, 8x13½ inches, inside. They were raised 2 inches from the bottom-board, were good colonies with plenty of honey, were put in at the same time as the others, and kept at the same temperature (42°) as the others.

On April 6th, in an article for the *Review*, I wrote this in regard to the groups Nos. 1 and 2:

"These bees have remained quieter the entire winter than any like quantity I ever knew, and I examined them today, and they are all alive, and absolutely quiet. There is not a speck of diarrhea on one of the white hives, and there has been less dead bees on the cellar bottom than I have ever had from a like number of colonies. These bees are still in the cellar, and at present it looks like a case of perfect wintering. But it does not prove that they might not have wintered equally well without covers of any kind, and with less work in preparing."

At the time of writing the above, there was a day or so of fine weather, and I commenced to move my bees from the cellar to the summer stands, but had the good luck to only get out 10 colonies the first afternoon; the next morning the weather turned cold and stormy, and continued so until April 20th, when snow fell to the depth of 15 inches, and from that day until May 8th there was not a day in which I could safely put out the bees.

Let me here say that in my article of April 6th I reported, in mentioning the 20 colonies with sealed covers, "They have been more restless than those covered with porous covers, the hives are damp and and unsatisfactory, and more bees have flown to the cellar floor."

Early in May I became alarmed for the safety of my bees, the weather continued so cold that I dared not put them out, and I found several dead, but they continued very quiet, without the least sign of diarrhea, and on May 6th I began to put them out. As those lots Nos. 1 and 2 were very quiet, I began in the south half of my cellar in which the 20 colonies were. There were also some 50 colonies in this part in double hives, of my old double brood-chamber style, with combs only 4½ inches deep; the covers on these were raised slightly with thin strips of wood like group No. 2. We found these bees in good condition, but about 10 per cent. were dead from starvation,

We next went to the hives with sealed covers, and 19 out of the 20 were dead. The hives contained stores in plenty, but the hives and stores were soaked with water, and combs nearly rotten with mold—nearly the whole colony of dead bees were on the bottom-boards, in a stinking, disgusting mass.

The weather continued fair, and on May 8th we began to remove group No. 1 to the new house-apiary. These colonies had about 5 per cent. loss by starvation, but the bulk of them, seeing they had been confined without a flight for six months and four days, were all that any one could wish; the hives and combs were dry and clean, many of the bottom-boards were nearly as clean as in summer, the bees were so bright and so still that we carried all of the 24 colonies that I put into the house-apiary without closing the wide entrance in either front or rear, and I believe without a single bee taking wing, and some

colonies remained several hours before they found that they were at liberty.

We found group No. 2 with board covers slightly raised, in about the same condition as No. 1, except I must confess, in just a little better condition taken as a whole. The hives, combs and bees were all one could ask, and speaks volumes for top ventilation. I never removed all these hives from the cellar until May 12th, but found the colonies all right at that date.

This seems too late in the season to expect good results, but as the willows, boxwoods and soft maples are just coming into bloom, and as clover is booming on every hand, the people at the Forestville apiary are cheerful and full of confidence for the future of the honey-business. The 12 colonies in the small house-apiary had 2 dead that were entirely out of stores. The colonies with enough honey wintered in the past most trying of winters (in which they never flew from the hives for 4½ months) in a more perfect condition than colonies in the cellar; the hives, combs and bees were without dampness or mold, and some of the bottom-boards entirely clean of dead bees.

I can say I believe truly that I lost 19 colonies the past winter in farther testing sealed covers. I first thought they had starved, but we have just finished cleaning up the hives and combs, and found every hive with an abundance of sealed stores.

I have long believed that the proper preparation of the hives for winter is the key to safe wintering in a good cellar, and I am thoroughly convinced that except to keep out mice and other intruders, hives with the covers entirely removed, or with a single thickness of burlap or cotton sheeting spread over the hives, is better than any cushion or cover of any kind. My next choice is building paper; with this I have not a single fault to find, except the trouble of putting it on, and if I were going to use tight covers, I would perfer it to the best absorbent cushion you could make, with any material that I am acquainted with.

I visited a bee-keeper at Dover, Minn., last March, who has been very successful in wintering bees. He leaves the hives entirely without covers. For full particulars of this visit, please see the *Bee-Keepers' Review* for May, 1893, page 129.

I saw in a late number of *Gleanings* that Mr. Foster, of Mt. Vernon, Iowa, has been visiting an Iowa bee-keeper that has been very successful in wintering bees with a single thickness of cotton sheeting spread over the hives; and those that have read the early writings of Mr. Quinby, remember that before he adopted the movable frame he wintered his bees in box-hives in a dark room, the hives being turned upside down, and left entirely uncovered, and I do not believe there is a better plan to-day.

This may seem a long report on wintering, to make at this time of the year, but I have just received a letter from a Minnesota bee-keeper who has lost all his bees—253 colonies — this winter, and I am convinced that 75 per cent. of all the bees in this section are dead to-day, so you see wintering is a vital question, and there is no better time to impress people with it, than when they are feeling their heavy losses.

Forestville, Minn., May 13, 1893.

Destroying Moth-Millers--Quack Bee-Keepers Described.

Written for the American Bee Journal

BY R. C. HATCH.

I think I can positively say from experience that the Italian bee is moth-proof, after having kept Italian bees in Illinois for five years, and never had the least particle of trouble with moths, even in weak or queenless colonies. It is natural to suppose that moths should be more prevalent in certain localities, considering the surroundings, that is, whether bees are kept for profit by apiarists, as in Illinois, or as they are kept here in Iowa by Tom, Dick and Harry, in the back garden, where one to six empty hives are left to breed moths every summer.

Black bees are kept almost entirely here, and although they are good honey-gatherers, it is one continual source of trouble to keep the moths out; whether it is the negligent surroundings or the black bee, I have as yet been unable to ascertain.

There are a number of ways of ensnaring the moth-millers about the apiary. Although they may not be very practical, large numbers of them can be exterminated in the following way with but little trouble:

Fill a jar about two-thirds full of water, and sweeten it with a little sugar, or maple sugar is better; set it out among your bees after dark. It will attract them, and when once in the jar of water they are yours.

Another way is to set a torch among your bees after dark, in such a position that it will shine on the back of the hives. This will also attract the millers.

Still another way is to set two boards up edgewise, half an inch apart at the bottom, and tight together at the top. Set it in some shady place near the apiary, and if old boards are scarce about the apiary, you will find the pests secreted in the trap.

But those apiarists having Italian bees I think will not have to try these methods of exterminating moths, as the bees will take care of them. I hardly think it worth while, in my case, to attempt to ensnare the millers, as for every one I would trap my neighbors would rear five, which looks discouraging in the beginning, and would likely turn out so in the end. There are quite a number of old bee-keepers in this vicinity, and they really are old bee-keepers indeed, they being old-fashioned as well as behind the times. Most of them are thoroughly versed in bee-keeping (in their estimation), and they can tell their theories and experiences, but don't care to hear yours. They use the same kind of hives their grandfathers used, which everybody knows is a common box with sticks through the center; for, as my neighboring apiarist said, "They have been thoroughly tried and proved a success."

My neighbor had three times as many bees as I last spring, and I got more honey from one colony than he did from his entire apiary. His management of bees is about this:

He makes not less than three raids on them during the season, his first adventure being to sneak upon them some warm day in the spring, when they are having a flight, in order to count them, which he generally succeeds in doing. He then lets them alone until they have nearly swarmed to death, and the honey season is about over. He then concludes it is abont time to put on surplus boxes, which he generally succeeds in doing with more or less stings. I can generally tell when he has been putting on the surplus boxes, by his disfigured countenance. Much depends upon how his smudge of sulphur and rags works.

His last, but not least, grand final raid is to harvest the crop, which is quite a peaceful affair. He makes it an object to wait until it has frozen up, and then his bees are quite gentle and harmless. I never heard of his selling any honey, there being two pretty good reasons why—first, his honey was not put up in salable packages; and, second, he seldom found enough to pay to try to sell. But nevertheless I will take mine in scientific bee-keeping, with the rest of my apiarian friends.

Central City, Iowa.

Nucleus Method of Replacing Winter Losses of Bees.

Written for the American Bee Journal

BY C. E. MEAD.

The eggs hatch by heat of the bees, therefore the warmer you can pack them the more eggs they can care for. Colonies of only two or three frames of bees may be made to increase rapidly by placing a division-board in confining them on the number of frames they cover, leaving the other frames in the hive, and allowing space under the division-board for the bees to pass under and get the honey. If there is no honey, put in some sugar syrup, and keep the entrance small. Place an oil-cloth on top of the frames and division-board, so the heat cannot go over the top of the division-board. You will have to move the division-board as often as once a week.

My Langstroth frames average about 8x12 inches of brood, which will average about 50 bees to the square inch, or 4,800 bees to the comb. That number will more than care for two combs, so they double as often as every ten days, in geometrical progression, until the capacity of the queen is reached.

In an average season, with the above treatment, a two-frame nucleus put into a hive of combs will have it full of bees by linden bloom, if put in on June 1st, in this locality.

I had, one year, two one-frame nuclei, each one of which filled a two-story hive, and one swarmed three times, and the other twice.

Do not be discouraged; work for a big yield this year, as it should be a linden year in Illinois.

I like wide frames best to get bait sections early. In a 10-frame hive seven brood-frames and two wide-frames, the two wide-frames give 16 sections; when well started, place in the super above, and put in their place empty frames, foundation, combs, or dummies, according to the strength of the colony.

Wide-frames should be put on the outside, with a frame of capped brood next to them, the combs of young larvæ and some empty ones to be put in the center.

Chicago, Ills.

An Experience Extending Over Several Years.

Written for the American Bee Journal

BY MATH. RADER.

In the spring of 1887 I received a colony of bees in an 8-frame Langstroth hive from a friend of mine. The colony cast two swarms during the summer, of which I kept the first, or prime swarm, only; the second swarm being returned after the queen-cells had been cut out of the parent colony, as directed by my friend.

By fall the two colonies had gathered about 50 pounds of surplus honey, and had plenty to winter on. I then bought 6 colonies more, all of which I wintered, and commenced in the spring of 1888 with 8 colonies in good condition. I increased them to 17 during the season, and secured over 800 pounds of very nice comb honey in one-pound sections, as basswood, or linden, had lots of honey that year, and, besides, the bees had enough winter stores to carry them through without any feeding. After this the dark side turned towards me, in regard to basswood giving honey.

In the spring of 1889, I took the 17 colonies out of the cellar in good condition except one, which was queenless. I at once ordered a queen from Texas, and strengthened the colony with brood from others, until the queen arrived. That year was the first poor honey-flow, white clover was very scarce, and worms, or caterpillars, commenced that summer to destroy the forest leaves and blossoms on basswood trees, and the 17 colonies gave me only 6 prime swarms, and about 600 pounds of honey, which was mostly dark or fall honey, and they were short of stores the next spring, so that I had to do some feeding.

In the spring of 1890 I took the 23 colonies out of the cellar in good condition, but one being queenless, which I united with another. I then started with 22 colonies, and with good courage. The beginning of the honey-flow from fruit-bloom was good, but white clover was scarce yet, and the basswood a total failure, as that was the first year that the caterpillars destroyed all the leaves on basswood, and also the blossoms, so that not an ounce of basswood honey could be expected in this neighborhood; but the bees had swarmed quite early, and I increased them to 36 colonies, but received only about 350 pounds of comb honey from the 36 colonies, fall count, and had to do some feeding to some colonies to carry them through the winter, and had to do lots of feeding in the spring to keep them in good condition, as I thought that the poor years would be over, and had learned from my books and journal that this was an important thing to have the bees strong when the honey harvest opened.

I took out the 36 colonies in the spring of 1891 in good condition, not having lost a single colony, and started again with good hopes. I increased my apiary to 53 colonies, as fruit-bloom and clover was quite good for the beginning, but as our main honey-source should commence to come into bloom (the basswood)—alas, there was no prospect at all to get one pound of basswood honey, as the leaves were all destroyed by the worms, so that our woods looked a good deal as in the fall, with hardly any leaves on any kind of trees, and I was cruel enough to take all the honey I could get from the bees—about 700 pounds in all—which they gathered in the fall, and when the honey-flow was over, my bees were short of stores for the coming winter, and I had to feed over 250 pounds of granulated sugar syrup to get them through the winter, but had to see that I had not supplied all of them to carry through the winter, and found, on putting them out of the cellar in the spring of 1892, that four had starved, and two were queenless, which I united.

I will now try to tell how I managed the 48 colonies that I had left, in the season of 1892, which was a better year for me than the three foregoing, but I did not want any increase on account of the previous year, when the caterpillars destroyed the basswood blossoms.

Those colonies that swarmed at the beginning of the clover honey-flow (which was quite late on account of the rainy weather we had last spring) I took out four frames of the parent colony, which were mostly sealed brood, and put into a hive with some bees, and put the hive with the four frames on a new place, then all queen-cells were cut out of the four frames that were left to the parent colony, and I placed four frames full of foundation in place of the four removed, and the swarm was returned to the parent hive.

Later on I tried several swarms by taking only two or three frames of brood from the parent colony, cutting out all remaining queen-cells and filling the vacant places with frames that were wired and filled full of foundation, and

the swarm was returned to the parent hive, and most of them also went to work and did not swarm any more that season.

Others I hived in a new hive, gave them one frame of brood and eggs in all stages, 2 or 3 drawn-out combs which I had from previous swarms that I had kept queenless after they had swarmed, and the young bees shaken off the frames every few days, wherever they were needed the most, the remaining places filled with frames full of foundation, the surplus sections removed from the parent colony, and put on the new swarm with two or three sections with drawn-out comb, which I had saved from the previous year, and also a queen-excluding honey-board between the hive and the sections, especially where no empty combs were in the hive by hiving the new swarm; and the new swarm was hived in the new hive so prepared, then the parent colony removed from its stand about two feet towards one side, and the new swarm put on the old stand. The parent colony was kept queenless by cutting out all queen-cells the fourth or fifth day after they had swarmed, and removed the hive towards the new swarm on the old stand so that they stood close together; after some days then put to the other side of the new swarm, and kept up moving from one side to another until the bees were all hatched and in the hive with the new swarm, and the bees worked very hard as far as I could see.

The empty combs were used to hive other swarms on, but not more than two or three empty combs were given to a new swarm.

At other times I hived two prime swarms in an empty hive with the sections on from parent colony and then put it on one of the parent stands where one of the swarms had come from. Those hived that way also staid without swarming again, but I doubt whether all these plans will work as well every year as they did last year, as the clover honey-flow was quite late here, although we had lots of white clover in bloom, but the weather being so rainy the bees could not work much the first part of the season. There was honey in the bloom, as the bees were just booming on it when we had a few nice days, and it kept in bloom until late in the fall, so that we got quite a lot of white honey last year. Basswood had not been damaged much by the worms, but did not bloom as nicely as years ago. Bees did not work on it more than two or three days, when it became very rainy, cloudy and cold for a few days, so that bees did not leave their hive, except a few hours in the middle of the day, and did not gather much honey from basswood.

However, I will not complain, as we got about 50 pounds per colony, spring count, of which 500 pounds was extracted, and the balance nice, white comb honey in one-pound sections. Our bees were very heavy with stores when put into the cellar last fall—some of them heavier than I wanted to have them. Some of them had over 35 pounds of honey when put into the cellar on Nov. 17th.

In regard to wintering bees in the cellar, I may say that I have never had the least trouble to get them through the winter in that way, as I have not lost one colony in wintering, except having a colony or two queenless, and four starved last spring. We keep the bees in the cellar under the house, and have potatoes, sauer-kraut, salt-pork and vegetables right beside the bees in the cellar. The only ventilation is a 3-inch pipe through the floor into the chimney. We keep a stove in the cellar, but have never been very particular to keep the temperature always the same, and not nearly as high as recommended in bee-books, although it is kept as near 40° as possible. The bees wintered very nicely the past winter, although we had very cold weather.

I would like to hear from the prominent and experienced bee-keepers as to what they think of my plan of handling bees the last season, especially hiving two prime swarms in one hive on the old stand. Does it really pay better, all other things considered, than to hive them separately, and take the comb honey, if only a little, extract from the brood-nest in the fall, and destroy the bees if not needed or wanted?

I would also be glad to hear from some Minnesota bee-keepers, whether they have had the same trouble with the worms destroying the basswood blossoms, and whether they have kept it up for many years. People in this vicinity claim that the worms were moving, and would be gone, while others claim that the wet and rainy weather kept them back last year. Probably bee-keepers in other States have had the same trouble, and could inform us how they got rid of the worms, as we have an abundance of basswood in this neighborhood, and I would be willing to increase my apiary a good deal if I could be sure the worms would leave us.

Raven Stream, Minn.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

After-Swarms—Preventing Them.

On page 648, in an item on "Preventing After-Swarms," by Mr. Doolittle, is this statement:

"In this way we can make sure that no swarm will issue after the first from this hive, and it is the only certain plan I know of."

Now, my experience of 25 years as a specialist in the bee-business will not admit of my endorsing that statement. I will admit that it is the rule, but there are so many exceptions to the rule, especially in a good swarming season, that it cannot be depended upon.

In seasons when the swarming fever runs high, I would go a little farther than Mr. D. does, and destroy every queen-cell, thus making them hopelessly queenless for two days; then give them a ripe cell or virgin queen. The rule given by Mr. D. has no exceptions, I think, with the black bees; but the Italians are not so easily controlled.

Independence, Mo. A. A. BALDWIN.

A Trip to New Mexico, Etc.

The weather has been very bad for bees here, rainy, cold, and windy; but there is a prospect for white clover, which is beginning to bloom, if we don't have too many hard rains that will wash all the honey out. I have three new swarms. I expect to take a trip to New Mexico this fall, and would like to hear from some of the readers of the BEE JOURNAL who live on the Texas Pacific, as I might give them a call. EDW. SMITH.

Carpenter, Ills., May 26, 1893.

Late Season—Strengthening Bees.

I fully believe that bees are one month behind of what might be called an early season. Mr. Doolittle need not think he is located in the coldest locality on earth.

I am only tending six colonies, and they are far behind an average season, so far as strength is concerned. One of them would have died from spring dwindling if it had not been strengthened by giving it young bees from other colonies.

I have mentioned this subject in the BEE JOURNAL in the past, but deem it of such great importance that I wish to do so again: Smoke each colony, and remove a frame of hatching brood from the strong one, taking care not to get the queen (if you have no queen-excluder to place at the entrance of the weak colony), and shake the bees at the entrance of the weak colony. The old bees will return to the colony taken from, but the young ones will remain with the weak colony.

Colonies that have but a handful of bees, and are too weak to care for brood if given them, may be saved by this treatment.

I am pleased to see so much interest taken in *yellow* Italians. They are the kind for me, and not only yellow, but *evenly colored to the tip*. I prefer a very dark one, if evenly colored, than a yellow one with a black tip.

J. H. ANDRE.

Lockwood, N. Y., May 15, 1893.

The Sugar was All Right.

I sent some of the sugar mentioned on page 633, to Prof. Cook for analysis, and received the answer, which I enclose.

Linwood, Mich. ANDREW GIRARD.

Here is Prof. Cook's report on the analysis of the sample of granulated sugar sent him by Mr. Girard:

The color is due to marine blue, which is added to make the sugar white. All our granulated sugar contains it. It is entirely harmless. A. J. COOK.

Fine Weather—Season Promising.

We are now having fine May weather, and the honey-flow from poplar and white clover is just beginning. From some cause poplar and white clover came together this year—something a little unusual in this locality. Poplar usually precedes white clover, but Dr. Miller's explanation as to the early blooming of dandelion will perhaps apply to white clover; that is, that the snows in the winter protected, or rather encouraged clover, which makes blooming earlier.

The season promises fine, but as predicted by me some time since, bees have failed to get as strong as they should be at the opening of the honey-flow. H. F. COLEMAN.

Sneedville, Tenn., May 13, 1893.

Queen-Cells Over Drone-Eggs.

I am going to contradict some of the "big guns" just to see how it goes to get under the fire of a whole battery of them at once.

In reply to Query 868, Dr. Miller says bees will not use drone-eggs to start "queen-cells" if they have others. Now, Doctor, just you get a queenless colony right anxious to build cells, then give them some frames of eggs, among which are some drone-eggs in *new* comb, and if they do not build cells over some of them, I will admit that I "don't know" anything about queen-rearing.

At the bottom of the column Mr. Doolittle says: "A queen-cell is *never* built over anything but a larva." Now, Mr. Doolittle, do you remember of sending me a queen in 1891? Well, after she got to laying, I put a frame of foundation in the middle of the brood-nest, and kept watch of it, and in 24 hours after she began to lay in it, I took it out and gave it to a hopelessly queenless nucleus to save until the larvæ would hatch: 24 hours later there were *over 40 cell-cups built* on that sheet of foundation, and each contained *an egg*; but by the time the larvæ had hatched, the bees had destroyed all but about a dozen; this was probably because there were only a quart of bees in the hive.

Now, I want to know what *kind* of comb Mrs. Atchley's bees built in that empty frame that she put in the brood-nest when the bees were working in the sections? See page 525. Such an operation *here* would *surely* result in a drone-comb, unless it was a newly-hived swarm not over three weeks old. S. F. TREGO.

Swedona, Ills., May 4, 1893.

Hiving Swarms in Full Hives.

Last November I packed away 49 colonies, and on April 1, 1893, I put out 48, all in good condition. Being a beginner of three years' experience, I thought I had the bee-business to perfection; but, alas, on May 1st I changed my mind. I looked them over, and found 18 dwindled down, so I united them, putting as high as seven into one, then not having a good colony. Some of my neighbors did not unite theirs, and have lost all they had.

April was very changeable in this locality; bees would start out in search of stores and never return. To-day is fair weather for them to fly, and they are carrying in pollen. I have 30 colonies left, and 18 hives full of honey and pollen without bees.

Now will some one be kind enough to tell me what the result will be if I hive my new swarms in those hives, just as they are, leaving the hive full of honey and pollen?

J. W. MILLER.

Rodney, Mich., May 15, 1893.

Lost All but One Colony.

We had a very long and cold winter. A good many of the bees died. I started in the winter with 13 colonies, and I now have one. They had plenty of honey—from 7 to 40 pounds—except one. They kept dying from the middle of January to the middle of March. On April 1st I had two good, strong colonies that commenced to carry in pollen on March 30th, and did well until about the middle of April, when it turned cold and snowed, and we have had bad weather ever since, only a day now and then that bees could get out.

On May 9th they began to carry in pollen again, and I noticed one colony was not as strong as it was before the cold spell, and yesterday (May 11th) there were no bees flying in one hive. I opened it, and there was not more than 8 or 10 bees in it, and no brood. The hive was clean, no dirt or dead bees in it, and I judge about 25 pounds of honey. Where they went I don't know. Bees died in chaff hives here as well as in single-walled hives.

The BEE JOURNAL never fails to come on time, and I will say without fear of contradiction, that it is the best bee-paper printed in the United States. H. T. LATHROP.

Bidwell, Iowa, May 12, 1893.

How the Bees Wintered.

I notice on page 598 is published the article I wrote about two months ago from Virginia. On my return home, April 12th, I found 4 of my 53 colonies dead—one from starvation, with honey in the hive; the bees were separated from their stores, and probably died during a long cold spell. One died of diarrhea, and two of dwindling. Since that I have lost three more by dwindling; thus I have lost 7 out of 53, which is not bad, I think, as we had a long, cold winter.

Of the seven that died, six were in double-cased packed hives, and one in a single-walled hive. Thus my loss was far the greatest in packed hives, and this has been the result of my experience for the past few years, and now my strongest colonies are those that were wintered in tiered-up hives two high, each with combs in, and no outside protection.

Bees are promising well here at present. No fast-bottom hives, and no chaff-hives for me. I have tried them.

CHESTER BELDING.

Middletown, N. Y., May 15, 1893.

Bees Booming—Doubling Colonies.

The bees are booming lately. One splendid swarm, after Nature's method, and one different from any plan yet named. I was a month getting this swarm. If the thing doesn't die in the borning—if it "pans out" well—then sometime I'll tell what kind of a caper I perpetrated on the bees.

How's this? Doolittle and R. L. Taylor are so near the top of the apiarian ladder that if they were to be pushed any higher they'd slip off the top. And yet the one (the latter) says double-up weak colonies in the spring about ten days before the expected honey-flow; and the other looks upon this practice with hesitancy and misgivings. Which is right? Which shall we follow? It is plain to me that Mr. Taylor's plan will work here in this hot locality—near Cincinnati. But as to doing so at Lapeer, must give us pause.

Has any one ever peeped it that bees *always* prefer to enter their hive at the right hand as you face the hive? So Mr. Alley's drone and queen traps should all be made with a *left-hand* slide for portico hives.

DR. ALBERT SAYLER.

New Palestine, O., May 22, 1893.

Great Premium on page 709!

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, June 3rd, 1893:

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

CINCINNATI, O.—A short supply of extracted honey is the cause of a slow demand. It forbids an effort on our part to sell. It brings 6@8c. There is no choice comb honey on our market, and prices are nominal at 12@16c., in a small way.
Beeswax—Demand good, at 22@25c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Comb honey is well cleaned up. Fancy white is selling at 14@15c. Off grades, 12@13c., and buckwheat, 9@10c. Extracted is dull, and the market well stocked with West India honey, which sells at from 68@75c per gallon. Beeswax, 26@28c,
H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

ALBANY, N. Y. — Honey market is very quiet now, as between seasons. Beeswax—at 30@32c. for good color. H. R. W.

MINNEAPOLIS, MINN.—There is quite an active demand this week for honey, especially white comb honey in 1-lb. sections. Dark is very slow sale. Stock on hand in this market is very light. Receipts have not been enough to supply trade during the past 10 days. Fancy white conb honey, 18@20c.; No. 1 white, 17c.; fancy amber, 16c.; No. 1 amber, 14c.; fancy dark, 12c.; No. 1 dark, 10c. Extracted California 60-lb. kegs, 9c. Beeswax, unsalable. J. A. S. & Co.

Bicycles are getting to be very common now-a-days. We have two for sale, and any one wanting a bargain in a good bicycle, should write to the office of the BEE JOURNAL.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Bee-Keeping for Profit.—We have just issued a revised and enlarged edition of Dr. Tinker's book, called "Bee-Keeping for Profit." It details his most excellent "new system, or how to get the largest yields of comb and extracted honey." The book contains 80 pages in all, and is illustrated. Price, postpaid, 25 cents, or clubbed with the BEE JOURNAL for one year, for $1.15.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line**, for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

WANTED to sell eggs from fine laying poultry. 50 cts. sitting. Write me.
G. E. SMITH, Longmont, Colo.

TO EXCHANGE — High Grade Safety Bicycle, for Honey or Wax.
17Atf J. A. GREEN, Ottawa, Ill.

TO EXCHANGE — New Cowan Extractor for choice extracted honey.
22A2 J. H. & A. L. BOYDEN, Saline, Mich.

BARGAINS—Harbaugh stock. Lang. Brood Frames, 50c. per hundred in 500 lots. Imp. L. S. Supers, $3 for a crate of 25. Only a few at these prices. E. T. ABBOTT, St. Joe, Mo.

Speaking of Family Story Papers, a well-known writer once said that the *Family Ledger* published in Los Angeles, Calif., is, without question, the cheapest and best printed illustrated family weekly in the world. Over 60 complete serials are run in a year's issue. The paper has many copyrighted features, and is illustrated each week. To those who are unacquainted with this remarkable periodical, a special offer is made of 10 weeks for 10 cents. Few that read story papers will allow an opportunity to pass whereby they can secure so unique a paper for such a small sum.
18C3t

Convention Notices.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association on June 16 and 17, 1893, one mile west of Bronson. All are cordially invited to be present. J. C. BALCH, Sec.
Bronson, Kans.

INTERNATIONAL.—The North American Bee-Keepers' Association will hold its 24th annual convention on Oct. 11, 12 and 13, 1893, in Chicago, Ills. Not only is every bee-keeper in America, whether a member of the society or not, invited to be present, but a special invitation is extended to friends of apiculture it every foreign land. FRANK BENTON, Sec.
Washington, D. C.

"The Winter Problem in Bee-Keeping" is the title of a splendid pamphlet by Mr. G. R. Pierce, of Iowa, a bee-keeper of 26 years' experience. It is 6x9 inches in size, has 76 pages and is a clear exposition of the conditions essential to success in the winter and spring management of the apiary. Price, postpaid, 50 cents; or given as a premium for getting one new subscriber to the BEE JOURNAL for a year. Clubbed with the BEE JOURNAL one year for $1.30. Send to us for a copy.

Amerikanische Bienenzucht is the name of a bee-book printed in the German language, which we now have for sale. It is a hand-book on bee-keeping, giving the methods in use by the best American and German apiarists. Illustrated; 138 pages; price, postpaid, $1.00. It is just the book for our German bee-keepers. We club it with the BEE JOURNAL for one year, for $1.75.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

Circulars have been received as follows:

H. P. Langdon, East Constable, N. Y.—Non-Swarming Arrangement.

S. L. Watkins, Grizzly Flats, Calif.—Strawberries.

C. H. Hare, Pawnee City, Nebr.—Bee-Keepers' Supplies and Italian Bees and Queens.

G. H. Grimm, Rutland, Vt.—Maple Syrup.

"Bees and Honey"—page 707.

Advertisements.

—CROSSMAN HAS THEM—

Those Beautiful Golden Queens

Reared from the best 5-Banded stock. **Unexcelled for Business, Beauty and Gentleness. Satisfaction guaranteed.**
Warranted Queens, after June 1, 90c. each; $9.00 per doz. Tested, $1.50 each: Sec. Test., $2.50. Safe arrival insured. Send for Circular.

W. P. CROSSMAN, Ballinger, Tex.
8A26t *Mention the American Bee Journal.*

50 Second-Hand Hives.

I **WILL** sell 30 New Heddon and 20 L. Simplicity hives. Frames filled with good straight combs, mostly wired, containing from 5 to 15 lbs. of honey to the hive. Price of Heddon, $3.50, and L. Simplicity, $2.50 each. A discount of 5 per cent on orders for 20 hives and upwards. Will exchange for First-Class Incubator; Eggs for Hatching, of B. Leghorn and B. Plymouth Rock fowls; Italian queens, or a Spraying pump, as part pay for hives.

A. WORTMAN,
22A2t SEAFIELD, White Co., IND.
Mention the American Bee Journal.

It's Hard Work

To keep up with orders this spring. The last three days have brought Orders for 33 of those

5-Banded Italian Queens

And 20 of them go to parties who have **tried them before.** Get your order in soon, if you want Queens this month. After this month I can ship promptly. I guarantee entire satisfaction, as described in my Price-List.
One Warranted Queen, $1.00; 6 for $5.00.
Reference—G. W. York & Co. Money Order office, Cable, Ill.

S. F. TREGO, SWEDONA, ILL.
Mention the American Bee Journal.

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., JUNE 15, 1893. NO. 24.

The Long Drouth that continued in England this spring has finally been dispelled by refreshing and welcome showers. A bountiful crop of honey is now looked for by our English cousins. We hope they will not be disappointed, and also that American bee-keepers may be able to rejoice with them ere the white flakes again may fall.

The First Number of the *Bee-Keepers' Enterprise*, the new bee-paper, is on our desk. It contains 14 pages and tinted cover, is neatly printed, and looks as if it might be a success. We trust its sagely editor and publisher, Mr. Burton L. Sage, may find in it the realization of his fondest hopes.

Bro. A. I. Root's picture with condensed biographical sketch, appears in the beautiful *Maryland Farmer* for June, published in Baltimore, Md. We were glad we had the opportunity to present Bro. Root to our readers a few weeks ago, for we believe that the study of such a noble life and character is one of the best sources for self-improvement and incentive to higher and better living. May Bro. Root live long to bless the world with his useful and helpful efforts.

Michigan Bee-Keepers, ever in the lead, are to have an experiment apiary, to be conducted by the State Experiment Station. Hon. R. L. Taylor has been wisely selected as the apiarist in charge. This is indeed an important work, and Michigan bee-keepers are to be congratulated upon the happy outcome of their efforts in securing an experiment apiary.

Bro. Hutchinson, in a letter just received, quite naturally feels elated over the success in getting it established. We will likely have more to say about it later. In the meantime, what are the other States doing in this line? Where is Illinois? Vermont and Michigan are now ahead.

"The Worst Spring in 30 years," is what Dr. Miller says it has been. As a consequence, his loss is about 40 per cent., the loss in cellar-wintering being light. As the Doctor has been fearfully overworked this spring, he will have a chance to rest up if he has only 60 per cent. of his bees to work. He can spend more time at the World's Fair, as he says in *Gleanings* for June 1st, that to spend the summer at the Fair, "would be as good as a summer in Europe, and at much less expense."

The Vermont Bee-Keepers have been allowed a small sum with which to conduct experiments at their State Agricultural College and Experiment Station. A practical apiarist will be put in charge, and the apiary increased. It is hoped that the bee-keepers of the State will take an active interest in suggesting experiments. It should be made a permanent feature of the College, as it must prove of great benefit to every bee-keeper in the State.

Voice Organs of the Bee.—An exchange says that the bee has threefold voice organs, which are the vibrating wings, the vibrating rings of the abdomen, and a true vocal apparatus in the breathing aperture or spiracle. The buzz is produced by the first two, and the hum, which may be "surly, cheerful, or colloquially significant," by the vocal membrane. A number of the bee's notes have been interpreted. "Hum-m," is the cry of contentment; "wuh-nuh-nuh" glorifies the egg-laying of the queen; "shu-u-u" is the note of the young bees at play; "s-s-s-s" means the muster of a swarm; "b-r-r-r" the slaughter or expulsion of the drones; and the "tu-tu-tu" of the newly-hatched young queen is answered by the "qua-qua-qua" of the queens still imprisoned in their cells.

The Progressive Bee-Keeper for June is a bright, newsy number. Seldom does so young a bee-paper take such strides forward as has the *Progressive* during the past few months. We are indebted to it for exceedingly complimentary references to the AMERICAN BEE JOURNAL found among some "Wayside Fragments," written by "Somnambulist." If a fellow can see so much in his sleep as does Mr. Somnambulist, we wonder what he would find with his eyes wide open. We wouldn't try to wake him, though, so long as he writes so well while promenading in his slumber robe. Sleep on; write on, Sommy, and call again.

The Texas Horticulturists hold their annual meeting at Rockport, Tex., on June 20th to 22nd, and all societies and individuals are invited to meet with them. The following very fraternal letter was received by Mrs. Atchley from Mr. E. L. Huffman, the wide-awake Secretary of the Texas State Horticultural Society:

FORT WORTH, Tex., June 3, 1893.

MRS. JENNIE ATCHLEY—*Dear Madam:*—Our Programme is now in print, but due notice will be given of your bee society, and the essays to be submitted and by whom, and time set apart to the use of your society, etc.

In the Report of this meeting to be published by the State, space will be set aside to the society, and the essays furnished by the same, and at the Rockport meeting your society will have every right, privilege, etc., that you desire.

The M. R. & T. railroad, and the Aransas Pass railroad give a one fare rate, or 3 cents a mile, for the round trip. All other roads give a 1⅓ rate, or 4 cents a mile for the round trip. Express companies carry all exhibit matter at one-half merchandise rate, so you see we have been given low rates both by the railroads and express companies.

I am exceedingly obliged to you for the interest you have manifested in this matter. For some time I have traveled over Texas, and have a fair idea of a Texas home, and I humbly trust that our meeting at Rockport may be the means of placing honey, flowers, fruits, vegetables and poultry on many tables that now look desolate on account of their absence.

From what I now see, I am firmly convinced that it will be the grandest meeting ever held in Texas. Every industry will be represented, including the County, District and State Fairs. The people of Rockport have provided twenty yachts, and the usual grand free entertainment programme has been made.

Thanking you again for your appreciated kindness in this matter, I am,

Very respectfully,
E. L. HUFFMAN.

Mrs. Atchley will be at the big meeting at Rockport, and she wants to see every bee-keeper there that can possibly arrange to attend. Let there be a grand rally of the representatives of every rural pursuit, and thus make it a memorable as well as a profitable gathering of the best elements found in our country.

June 20th to 22nd, at Rockport, Tex. Don't forget the date or place.

Honey from Alsike Clover.—Mr. B. Taylor, in an article written for the *Review*, says that a Mr. Hitt, of Dover, Minn., lived within four miles of 40 acres of Alsike clover a few years ago, and that his bees stored 30 pounds of fine honey, per colony, from it in two weeks. He is quite positive the honey was from that field, for at daylight the bees would fly in immense numbers in that direction, would keep returning from the same direction until dark, the clover was full of bees, and there were no other colonies of any account in the neighborhood; the honey flow stopped when the clover was cut, and it seemed reasonable that they got the honey from that field of Alsike, as there was no other visible supply.

Bicycles are getting to be very common now-a-days. We have two for sale, and any one wanting a bargain in a good bicycle, should write to the office of the BEE JOURNAL.

The Liquor Business and the Government have recently been receiving some deserved attention in recent numbers of *Gleanings*. We are glad Bro. Root is taking up the subject of intemperance. Of course our glorious (?) Government is in the liquor business, but the saloons and their damning influence are a thousand times more in the Government.

We have been rejoiced at the good work Bro. Root was doing in the way of getting people to stop using tobacco; but he will find a greater field for his best efforts when he begins to help destroy the liquor demon —the most stupendous curse of our modern civilization.

We have read, and truly believe, that bee-keepers, as a class, are the cleanest, brightest, and soberest people on this earth, and for that reason we believe they are all the time, and in every possible way, as one man against the infernal liquor traffic in its every form. Oh, when all the good people of this "land of the free and home of the brave," once *unite* in their efforts to overthrow the evils that are now rampant, what a great house-cleaning our beloved Columbia will have! And how much sweeter she will be to us all thereafter! May that "happy day" be hastened!

One Cent Postage Stamps we prefer rather than two cent ones. When sending fractions of a dollar, please send us the one cent stamps.

Convention Notices.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association on June 16 and 17, 1893, one mile west of Bronson. All are cordially invited to be present. J. C. BALCH, Sec.
Bronson, Kans.

INTERNATIONAL.—The North American Bee-Keepers' Association will hold its 24th annual convention on Oct. 11, 12 and 13, 1893, in Chicago, Ills. Not only is every bee-keeper in America, whether a member of the society or not, invited to be present, but a special invitation is extended to friends of apiculture in every foreign land. FRANK BENTON, Sec.
Washington, D. C.

Circulars have been received as follows:

J. D. Givens, Lisbon, Tex.—Queens.

Aspinwall Mfg. Co., Jackson, Mich.—Aspinwall Bee-Hive.

Mrs. Jennie Atchley, Greenville, Tex.—Honey-Extractors and Queens.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED

When to Italianize Bees.

I have a colony of bees that I would like to Italianize. When would it be the right time to introduce a queen, before or after swarming?
Prairie Home, Mo. F. N. BLANK.

ANSWER.—Perhaps the best time to Italianize is when you have the Italian queen to introduce. There may be circumstances that make it much more convenient to get an Italian queen one time than another. It may be a little more convenient, other things being equal, to Italianize at or just after swarming, but if you want to rear queens from your Italian stock, then you may prefer to get your Italian stock in shape before swarming. In any case, avoid in general a time when bees are not storing.

Destroying Moth-Worms in Combs.

The BEE JOURNAL states that 21 days after bees swarm there will not be any young bees in the way. Now, I have 4 colonies that I wish to transfer. Their combs have some moth-worms in them, and I don't want to lose the combs, nor put worms into new hives. After the bees are drummed out, can the hives be set over some brimstone, and thus kill the worms? Or would you use comb foundation, and not use the combs at all? J. C. DILL.
Morganville, N. J.

ANSWER.—A few worms in a hive can be taken care of by the bees themselves, especially if they are Italians. But if a colony is very weak, and of black bees, the worms may get the start of them.

You can do as you suggest, brimstone the combs after the bees are all out, but remember that when worms have grown to considerable size it takes a great deal of smoking to kill them. Give them twice as much smoke as you think they need.

But while you are transferring the combs, why not pick out the worms yourself? You can do so with the point

of a penknife, and leave very little cleaning out for the bees.

Probably some would prefer to use foundation and melt up the old combs. The character of the combs themselves would have something to do in deciding. Nice, straight, all worker comb might be better than foundation, while crooked combs with a good proportion of drone-comb might better be melted up.

Please bear in mind that putting wormy combs into a new hive does not insure the continuance of worms. The worms do not multiply, only as moths enter the hive and lay more eggs. So if a strong colony is put upon wormy combs, strong enough to prevent moths entering, just as soon as the worms present come to maturity, the trouble will be at an end, even if the bees should not succeed in tearing out the intruders.

What Caused the Dwindling?

What is the reason my bees are dwindling away? They are dying one by one. I had 45 colonies of bees on March 1st in good condition, with plenty of stores and brood. To-day I have lost about 15 colonies. They keep dying away until at last they have only the queen, four or five bees, and some brood left, and they have plenty of honey. Half of them were wintered in the cellar, and half on the summer stands in chaff hives. I have handled bees for the last ten years, and never had any experience like this.

Omaha, Nebr. A. C. DAVIDSON.

ANSWER.—Spring dwindling seems to be one of the things for which no one has any satisfactory explanation. Years ago there seemed to be nothing of the kind. Some have thought that new plans of management, the extractor, or something of the kind might be the cause, but apiaries of box-hives have suffered as well as others.

There seems to be no fixed rule about it. One man may say it never troubles his bees, and with his management no one ever need suffer from it, but perhaps the very next spring it swoops down on him, and he has nothing more to say.

As to cure, none is known. At least none that you can apply. When continuous good weather comes, allowing the bees to bring in fresh honey and pollen, then spring dwindling ceases. Perhaps it might be said that you can prevent it by having your colonies very strong. But sometimes the strong colony of the fall is the weak colony of the spring.

Perhaps spring dwindling is one of the results, or at least one of the things likely to follow, bad wintering. After a very hard winter bees seem weak and ready for dwindling in cold spring weather. The past winter has been severe, and the spring one of the very worst ever known. Some who brought their bees out of the cellar with trifling loss, have entered the month of June with a fourth, half, or more, gone where the woodbine twineth.

There is one comfort for you, if this is your first experience with spring dwindling. It will never trouble you so much again. You will learn to take it philosophically, and bear it patiently, expecting loss from it as a part of the business.

Worker-Brood in Drone-Comb.

Mr. J. P. Ralston has a colony of bees that have worker-brood sealed over in drone-comb, on both sides of the comb. I noticed it, and showed it to him in looking over the colony. I think he will send a part of it to Mr. A. I. Root in a few days. I think that "busts" the compression-of-the-queen's-abdomen theory. J. C. BALCH.

Bronson, Kans.

ANSWER.—There is nothing new in this, and the advocates of the compression theory do not admit that it has any "busting" power, for they claim that before a fecundated queen lays worker-eggs in drone-cells the bees always narrow the mouths of the cells with wax. Something like 20 years ago Mr. R. R. Murphy sent to the AMERICAN BEE JOURNAL a fine sample of hatching workers in drone-cells. Perhaps Dr. Miller is the only one who has lately said anything in favor of the compression theory, and he has never pretended that it could be proven true, only that it had not yet been disproved. But Mr. Reepen's bringing in *Apis dorsata* with only one size of brood-cells for drones and workers proved too much for the Doctor, and he has given up all defense of the compression theory.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

DR. A. B. MASON.

Several requests have come to us for certain notorious apiarian faces to be placed in this department, and among them Dr. Mason was asked for. So we are sure of pleasing some folks this week, and feel very certain that several thousand people will be unusually interested in this number of the BEE JOURNAL.

DR. A. B. MASON.

For many years we have been very fortunate in being permitted to count Dr. Mason among our very best friends, so our extreme pleasure in presenting him to our new readers will be quite pardonable. We have always admired him, and esteemed him most highly as a true friend and Christian brother.

The biographical sketch of the Doctor was written several years ago for *Gleanings* by Mrs. Mason, so we are safe in saying that it is a truthful portrayal of Dr. Mason and his "erratic life," for his wife *ought* to be fairly well acquainted with him, especially after "enduring" him for about 35 years!

The following is what Mrs. Mason has to say of her "best Doctor:"

The subject of this sketch was born 25 miles southeast of Buffalo, in the town of Wales, Erie county, N. Y., Nov. 18, 1833. His father was born in Massachusetts, and was of English, Scotch, and Irish descent; was a soldier in the war of 1812, and assisted in the capture of Fort Erie. His maternal grandfather was killed by the Indian allies of Great Britain, in the same war. His maternal grandmother was of the old Knickerbocker or Dutch ancestry.

Mr. Mason had six brothers older than himself, two younger, and two sisters. All were raised on a farm, and the brothers are all farmers. The only living sister is the wife of a farmer, and lives at Emporia, Kans. His mother and grandparents all died in their 83rd year, and his father was about 90 at his death.

In DeKalb county, Ills., when about 17 years old, Dr. Mason taught his first school, for $14 per month, and "boarded round." In relating some of the incidents in connection with that school, he says: "The last three teachers preceding me were turned out by the 'big boys,' the last being thrown through the window with the window shut. Of this I knew nothing until the morning I went to begin school. I made up my mind to teach that school or somebody would get hurt, and so I told the director. I was hired for three months, but taught four, and was offered $40 per month to teach the same school the next winter. A majority of the scholars were older than I was."

At the close of this school young Mason went to Beloit College, Wisconsin, and attended two terms, his chum and friend being the now well-known Gen. Warner, of Warner "Silver Bill" notoriety. With the exception of the above, and a few terms attendance at an acad-

emy in Wyoming, N. Y., when he was either at or near the head in all his classes except grammar, his school education was obtained in the common district school.

In his 19th year Mr. Mason joined the Baptist church of his native town, and has ever since been proud to be known as a Christian. Just previous to his 22nd birthday, at the earnest solicitation of his parents, he commenced the study of medicine with the family physician, working, as opportunity offered, to earn money to help pay expenses.

During the winter of 1857 Dr. Mason attended medical lectures at the University of Michigan, at Ann Arbor. At the close of the lecture course, he went to Illinois to spend the summer, and to complete his medical studies. The following autumn he returned to the old home in New York, and on his 25th birthday he was married to a Miss Clark. In the spring of 1859, in company with several families from New York and Illinois, the newly married couple went West and located at Irviugton, Kossuth county, Iowa, 40 miles west of the present home of Mr. Eugene Secor. The colony with which they went having broken up, in 1862 they moved to Waterloo, Iowa. Here Mr. Mason commenced the practice of denistry, which he has followed to the present time. He was Secretary and Treasurer of the Iowa State Dental Society, and President of the Northern Iowa Dental Association for two years. For four terms he was Secretary and a member of the School Board of the city in which he lived, and was one of the originators of the city library, and librarian for several years.

For years Dr. Mason was an active, if not the most active, member of the church to which he belonged, being at one time superintendent of the Sabbath-school, church clerk, a trustee, and clerk of the board of trustees. He was a leader in Sabbath-school work at home and in adjoining counties. One year he was secretary of eight different organizations, four of them religious.

Dr. Mason has always been known as an earnest temperance worker, and has had his life threatened twice by saloon-keepers. He still delights in being a thorn to them.

He has two sons and a daughter. His children, like himself, use no tea, coffee, tobacco, or liquor in any form.

In 1869, a brother, in moving, left two colonies of bees with him until a more favorable time for moving them. He soon became interested in them, and, seeing an article in a newspaper that year about Mrs. Tupper's success with bees, wrote to her, making some inquiries, which were kindly answered. He at once became a subscriber to the AMERICAN BEE JOURNAL, which he has taken until the present time.

The same year Mr. Mason became a member of the Central Iowa Bee-Keepers' Association, and the next year was elected secretary, which position he held until he left the State.

In 1873, owing to frequent attacks of rheumatism, and an increasing desire to make bee-keeping more of a specialty, Dr. Mason quit the office practice of denistry, and the proceeds of the apiary have materially aided in furnishing "bread and butter" for wife and children.

In 1874, the family residence, a large new house, with all its contents, was consumed by fire. There were 18 first-class Italian colonies of bees in the cellar. On learning of the loss, some members of the Central Iowa Bee-Keepers' Association offered to make him a present of 14 colonies as a starter.

The same year we moved to Ohio, which has since been our home. In the summer of 1875 we lived in a suburb of Cincinnati, and made and sold the Murphy honey extractor, most of them going to Southern States.

In 1876 Dr. M. was chosen secretary of the Buckeye Union Poultry Association, and held the position for four years.

In the winter of 1879 he tried what has since been known as the "Pollen Theory," and, with the experience of that and succeeding winters, he has been made a firm believer in that theory. This was several years before anything was said about it in the bee-periodicals.

In 1881 Mr. Mason succeeded in getting the Tri-State Fair Association at Toledo to offer Fair premiums for the display of the products of the apiary, and the display has increased in attractiveness each year; and last fall it was said the display was the most attractive of any on the grounds. He was appointed superintendent of the department the first year, and still holds the position.

During the year 1882 and 1883, when but little was generally known about foul brood, his apiary of 75 colonies was badly infected, nearly every colony having it in 1883, and he has frequently stated the loss was from $300 to $500; but he cured it that year, and has had none since.

For several years he has been a member of the Michigan State Bee-Keepers'

Association, and in 1886 was made an honorary member.

At Chicago, in November, 1887, on his 54th birthday, Mr. M. was chosen president of the North American Bee-Keepers' Society.

Since the foregoing was written by Mrs. Mason, we may say further that the Doctor was re-elected President of the North American the following year, at Columbus, Ohio. For the past nearly four years he has been postmaster at his home—Auburndale, Ohio—and although thus engaged he has not lost his interest in bee-keeping. This is shown in his activity in the Ohio State Apiarian Exhibit at the World's Fair, which he has in charge.

Having quite recently been relieved of his duties as postmaster, he will now have ample time and opportunity to do more for the cause of bee-culture, both practically and in a literary way, than he has been permitted to do for several years. We hope soon to have something from his ready pen, which always writes pleasingly and profitably.

Samantha at Saratoga.—One of the richest books in genuine humor that has been published for many years, in the English language, is "Samantha at Saratoga," by Miss Marietta Holley. Rev. Dr. Newman, the Bishop of the Methodist Episcopal Church, says of this book:

"I commend 'Samantha at Saratoga' as an antidote for the blues, a cure-all for any kind of imaginary woe, a recreation from mental taxation, a provocation for wholesome laughter, and an inspiration to godliness. It is the bitterest satire sugar-coated with the sweetness of exhilarating fun; it is irony laughing at fashionable folly; it is exalted wit with the scalpel in one hand and the Balm of Gilead in the other. Her personality is intense, her genius immense, her art perfect. She stands alone in her chosen sphere without a rival."

Read our great offer of this book free, on page 741 of this copy of the BEE JOURNAL.

"Bees and Honey"—see page 739.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

How to Rear Queen-Bees.

As I have so often been requested to repeat the "Queen-Rearing Dialogue" that was published in this department last September and October, I will endeavor to do so in as condensed a form as possible. It is as follows:

"What are you going to do with those wax-cups you are dipping there?" These are the Doolittle queen-cell cups we read about.

"What are you putting them on that comb for, when Doolittle says put them on sticks?" You see the weather is cooler now, and we find by sticking these cell-cups right on the sealed brood, the bees accept and finish them up better.

"How do you make them stick on the brood?" You see the cups are dipped stout at the base, or dipped times enough to form a *good* lump of wax, so I can handle them without injury. I then press them down firm on the sealed brood, with the tip of the cell standing a little off from the comb. I put into these cell-cups royal jelly, or food prepared by the bees to rear a queen with. To get the royal jelly, we let nuclei remain queenless for three days before we give them another cell, and then they are sure not to tear the cell down. By this time these nuclei have all started queen-cells.

I then take out the larvæ from the cells the nuclei have started, and with a little spoon made for the purpose, I call a "royal jelly spoon," I dip the jelly from the cells in the nuclei, and put it into little boxes. That is where we get most of our royal jelly. You can take the jelly from any place where the bees have started cells.

"Are you having your cells built in upper stories over colonies having a laying queen, as Doolittle does?" No; I

have cells all built in queenless colonies, in lower stories, as the other is too slow, and rather more uncertain than having them built in queenless colonies. We *know* that these queenless colonies will accept and finish up a good lot every time, for they are very strong.

"Where do you get these strong queenless colonies all the time? Don't they keep running down, and become weak and 'no good?'" No, no. You see I have selected ten good, prolific queens whose progeny are good cell-builders. And you see those twenty hives yonder by themselves? Well, that is my "cell-building apiary." On first starting I made ten of them queenless, letting the other ten lay on until my first batch of cells comes off: then I take those ten select cell-building queens out, and just turn them loose in the queenless ten that have just completed cells, and they never stop laying; by this time the brood is beginning to hatch out, and these queens at once fill the hives full of brood again. Then I give to the queenless ten about twenty cell-cups after three days, and they usually finish up about a dozen each, on an average. Then when these get "ripe," as we call it, we take them out and give them their laying queens back, and start cells again as before, and *vice versa*. If at any time we see these colonies giving way, we slip in a frame of hatching bees from other colonies, and I tell you this works like a charm, and our cells are all built in full colonies.

"Where do you get the larvæ you are putting into those queen-cups?" I will show you by opening "Old Pet's" hive here. (That is the name of one of the five-banded breeders.) It is a very strong colony; but you see this queen-excluding division-board? Well, Old Pet is kept over on this side with only three frames, and this side is kept up with brood from other sources. Old Pet is very prolific, and a fine select breeder, and should I let her have her own way, and full access to the whole hive, she would soon lay herself to death, or lay her eggs all out; and by keeping her penned off here, I let her lay only about enough for my needs; hence, she will live four or five years. Now you see this middle frame on her side is a frame of new foundation. Do you see how nice the bees are drawing it out? And do you see how full of eggs it is? Here I get the young larvæ. I cut out a piece of this new comb that contains larvæ about one day old from the egg, and shave the cells down close so that I can get the larvæ out easily. Now this is *where* and *how* I get my queen-larvæ, and there will be reared about 2,000 queens from "Pet" this year.

I tried keeping my breeder in a small nucleus, but the bees did not seem to take hold and draw out the foundation fast enough to suit me, and I just keep my breeders in full colonies, and then everything works like a charm. Where we *must* have lots of queens, we cannot depend upon any slow, uncertain process. But, as A. I. Root says about his force gardening, we have to force things, and we must have *full* colonies to do it, that's all.

"How do you know when these cells will hatch that you are grafting there?" Why, you see, they were eggs three days and larvæ one day, making four days, and as the queen hatches in 16 days, you see they will hatch in 12 days more. So, to be sure of things, I work them to hatch 11 days hence, and on the tenth day I remove them to nuclei prepared to receive them.

"What are you going to do with all these cells in this thing?" You see now my cells are nearly all reared here at home, and these are placed in this little rack with their points all down. Well, the boys have fixed them that way to carry to an out-yard several miles away, and you see these cells hang in this rack just like they did in the hive, and by being careful we can carry them without injury four or five miles, and put them into nuclei prepared for them.

To insert them, I just go along the rows about as fast as I can walk, and by the records on top of the hives I know when I come to one that needs a cell; I just open it, and place the cell down on the comb near the brood, and gently bring the next comb up just so that it will touch the cell enough to hold it. I do it so quickly that neither a smoker nor veil is needed. I do not stay long enough at a hive to sit down at all.

Now, here you see the record on this hive—queen sent out to Geo. Smith, Aug. 26th? This is Aug. 29th, so you see the queen has been out three days, and I know that the colony needs a cell.

"Why do you say "out to Geo. Smith?" You see by that I know exactly who gets the queens from each nucleus, and I can tell long before Mr. Smith can, what kind of a queen he has, whether she was pure, and all about her brood, etc.

"What have you got a big shade over that one hive for, and none over the rest?" That is a powerful colony where I keep my drones. Don't you see them flying thick? I usually keep this drone-

hive queenless, too, for it might swarm away out here on this prairie, and carry off all my fine drones.

"Why don't you keep the drones in nuclei, too, and then they would not swarm?" Oh, drones do not seem to fly nearly so active and constant from nuclei as they do from a strong colony.

"Oh, yes; I now see you believe in 'powerful colonies,' as you call them." That's what I do. I can do more with one good, strong colony than with a half dozen weak ones.

To keep my nuclei strong, I let my queens lay a frame or two of brood before shipping them, if I am not crowded too much with orders. But, if I can't do this, and I am compelled to ship as soon as they begin to lay, I bring frames of brood from other yards, and keep them up, and I tell you it is a good thing to have a yard with laying queens all the time to draw brood from in this queen-business.

When I have more cells than I have nuclei to take them, I always have a few strong, queenless colonies in some of my yards, and I draw frames of brood and bees enough from them to take all my surplus cells, which increases my number of nuclei a little every once in a while.

I don't fool any time away introducing virgins, for I find that a virgin is nearly always a few days longer in beginning to lay, than one that is not moved at all.

"Yes, but don't you lose more time when you give cells, than if you had virgins to put in?" No. You see my nuclei are only queenless three days when I give the cell, and the cell usually hatches the next day after I put it in, so my nuclei are queenless only about 5 days, and it is best for them to be queenless awhile when we introduce virgins. So the cell will hatch out and its queen lay just about as quick as my introduced virgin; and I like it better. It is less trouble, and somehow I like the queen better, too.

In the queen-rearing business, one must have some system about it to make a success of it. Every one must know his post of duty, like taking down a circus tent, if we wish to get along fast.

We have gone over all this "preamble," and only shown the good working side of it all. Now, to show you that it is not all sweet and no bitter, I must tell you that all the cells do not hatch, and we often lose queens in mating, and for these reasons some of our nuclei go without queens so long that they take a laying worker, and a great many other things go wrong.

But I have learned to do just like the bees do when the sun melts their combs all down, and just go to work and repair the loss as quickly as I can, and I am here to tell you that queen-breeders have their ups and downs just as much, or a little more, than honey-producers do. Now I hope I have made this all plain.

JENNIE ATCHLEY.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

June 16, 17.—S. E. Kansas, at Bronson, Kans.
J. C. Balch, Sec., Bronson, Kans.

Oct. 11, 12, 13.—North American (International), at Chicago, Ills.
Frank Benton, Sec., Washington, D. C.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

North American Bee-Keepers' Association

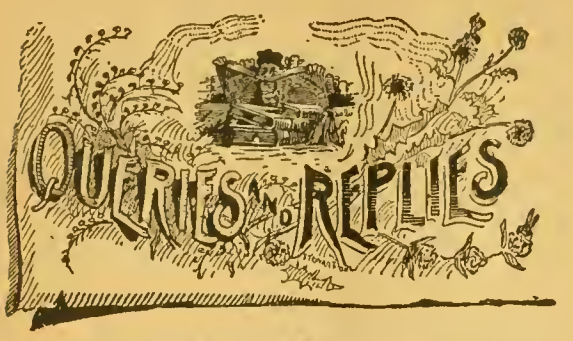
PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Francis E. Abbot contributes to the June *New England Magazine* an article, fully illustrated, dealing with "The Boston Tea Party," and the men and events of that time; Prof. Julius E. Olson, of the University of Wisconsin, gives an extended and judicial review of "Norway's Struggles for Political Liberty"—it is an article which will interest all students of the history of popular constitutional government; Price Collier describes "The Old Meeting House in Hingham, Mass.," said to be the oldest church organization in the country, and Charles Frederick Danforth gives a timely travelers' guide to the "Trout Fishing in New England," the season for which opens this current month.

Dr. Miller's "A Year Among the Bees" is a book of over 100 pages. It commences with the necessary work in the spring, and runs through the entire year, detailing the methods of doing, as well as telling when to do, all that should be done in the apiary. Bound in cloth. Price, postpaid, 50 cents; or clubbed with the BEE JOURNAL for one year, for $1.35.



Digesting Food and Storing It for Future Use.

Query 875.—Is there any other animal or insect except the honey-bee that digests its food, and stores it for future use after it is digested?—P. W.

Yes.—Will M. Barnum.

Yes.—Mrs. J. N Heater.

I don't know.—E. France.

Please ask me something I know.—J. M. Hambaugh.

No; and further, the bees do no such thing.—G. W. Demaree.

I don't think of any unless it is the bumble-bee.—S. I. Freeborn.

I know of none, and do not except the honey-bee.—Jas. A. Stone.

I'm only a bee-keeper, not a naturalist or entomologist.—C. C. Miller.

I do not know whether the bee digests its food or not.—Mrs. L. Harrison.

Some other bees do it. I think some birds do something akin to it.—A. J. Cook.

The honey-bee does not do it. Honey has never been "digested."—Emerson T. Abbott.

Ask Prof. Cook. I do not know anything about this "digested matter."—G. M. Doolittle.

Is P. W. a mistake for W. D.? See Query 874. I'll resign in favor of Prof. Cook.—R. L. Taylor.

Look at Dr. Miller's answer. I dislike to say "I don't know," for he might accuse me of plagiarism.—A. B. Mason.

I am not aware that any animal, *not excepting the honey-bee*, does digest its food, and then stores for future use.—J. P. H. Brown.

Bees only partially digest their food before storing it, according to our best authorities. It is quite likely that other insects practice the same sort of economy. Bees are not "animals."—C. H. Dibbern.

Your question suggests the inference that bees do digest the nectar which they gather before storing it. I cannot accept that as true. I do not believe it is true.—Eugene Secor.

Now, my friend, do you believe that the bees "fully digest" the honey as you state in your query? If they fully digested it, would they have any to store?—H. D. Cutting.

We do not believe that even the honey-bee digests its food previous to storing it in the cells. The honey which they stored has been kept in the honey-sac, and has not entered the digesting stomach proper.—Dadant & Son.

In the sense in which the word "digest" is popularly understood, the honey-bee does not digest its food. "Digested nectar" may be scientific, but to the majority of readers it is misleading. I do not like the word in connection with honey.—M. Mahin.

The humble or "bumble" bee so-called, gathers nectar and stores it in small quantities. Prof. Cook should be able to give a complete answer to the above, if it is desired to know the species that do so store, as well as whether any others do store or not.—J. E. Pond.

Yes, the bear and other hibernating animals. No one claims that the food (honey) of the bee is wholly digested before storage. All that is claimed is that the digestive process is commenced by the conversion of the cane-sugar of nectar into honey-sugar.—P. H. Elwood.

No, nor does the honey-bee store digested food. Not even man, with all his knowledge of chemistry, can perfectly digest food to be stored up for future use. The digestion of food is a vital process, and no honey ever goes through it and gets back into the combs.—G. L. Tinker.

Friend P. W., I do not think your trap is baited right. I do not know as to other animals, but my observations say that bees do not digest the honey they store for future use. Sweet cider fed to bees and stored in the combs for future use is sweet cider still, until it sours, as I have tried it.—Mrs. Jennie Atchley.

It is probable that all insects that store the nectar of flowers change it to a greater or less degree by digestion. All animals that hibernate, as well as many that do not, store up food for future use after it is digested, in the shape of fat. In fact, in this sense it might be said that nearly all animals store up digested food for future use.—James A. Green.

Can the Queen-Bee Establish the Sex of Her Offspring at Will?

Written for the American Bee Journal

BY J. F. LATHAM.

What constitutes "will power" appears to be the basis on which problems like the above depend for a solution, and the question seems barren of indicators that would lead the investigator to grasp the subject firmly, unless he can, at the onset, decide that point—what the implied "will power" is, in fact.

If the queen-bee can determine the sex of her progeny in embryo, while depositing her ova, would it not be reasonable to infer that all ovaviporous animals possess a corresponding faculty?

The sexes in fowls of all kinds are more or less intermingled. The same principle of analogy is characterized in the bisexual distribution of the progeny of the viviparous species. It is seldom that a litter of pups, kittens or pigs are of one gender. Twin calves, or lambs, are often of both sexes. In instances of the quadrupeds named, can an obvious reason exist on which to base an opinion, that the "will power" is less potent in the distribution of the sexual qualifications than what may be exercised by the queen-bee?

The molecular influences, which are stimulated to activity during the act of deposition by the queen-bee, seem to be uniform in their specialty in all stages of organic life, whether displayed in the cosmic elements which surround our planet, the flowers of the fields and groves, the finny tribes, or man. The strongest desires predominate. That the forces that generate the sexes, so termed, are not mechanical, and therefore undefinable in the present state of knowledge, is evident. With this point in view, it would be rational to assume the partially metaphysical position that thought, or will power, must be a result of the molecular action of the brain. Holding this view of the subject, it would seem a reasonable extension of the supposition that the impetus resulting from a concentration of the positive and negative forces (the true propagating agencies in nature) would exercise its relative strength like an electric flash, and stamp its offspring with its dominant desires, so to speak.

There appears to exist no perceptible evidence that a queen-bee exercises forethought preparatory to a change from fecundated to unfecundated ova, as she will change from worker-cells to drone-cells, and *vice versa*, on the same comb when she meets them, without perceptible hesitation, or being in the least retarded in her avocation.

Often a drone-cell containing a live drone in the imago stage of development, may be found in the body of a comb, isolated from its kind, and surrounded by a compact mass of capped worker-brood. Although what has just been said may not perhaps be a strictly conclusive demonstration of "will power," still it presents very strong evidence that would tend to support an admission that the queen, while depositing the isolated ovum from which the drone hatched, had absolute control of the spermatozoon.

It further evinces that the generative mechanism of the queen must be very nicely adjusted to operate with such a degree of certainty. But notwithstanding the delicacy of the act, an opening is presented for the entrance of a mild protest; for, with all the certainty with which acts of the denizens of the hive, and especially the progenitor, are credited, the lone son of the mother may have been the result of a deranged effort. But whatever may have been the ruling cause of the phenomenon, if such it may be termed, it presents a rich theme for thoughtful observation.

So infinitesimal are the seminal filaments that, on contemplation, one would be led to doubt the accomplishment of a separation so complete in its requirements as the sexual change demands. That it is accomplished, with its qualifying degree of certainty, there is no chance for a doubt.

Here, although the question is a much-mooted one, it may be asked, may not the nurse-bees have something to do with the sexual qualifications by operating on the ova after they are deposited in the cells? Although the query may be barred the decision of positive science, still there appears to be a reasonable chance for believing that they do possess the power to change the sex in the.

ovum, and can exercise it when necessity prompts them to do so.

If the nurse-bees do ever perform an operation of the kind inferred, it must be subtile in its nature as to place it beyond the grasp of the most acute observation, unless, eventually, with the aid of a powerful lense. But, without, it is very doubtful that the bees ever do change the sex of the ova, and as the *pros* and *cons* relative to the process are unsettled, it must remain a theory until a more reliable investigation than has heretofore been made may confirm its truth or fallacy.

Whatever the facts may be relative to a change of sex in the ovum, a nice discrimination is displayed by the nurse-bees in their care of the brood—a single drone-larva, surrounded by hundreds of the opposite sex, is fed, and its cell capped with unvariable precision.

Much stress has been given to the "pressure theory" in attempts to elucidate the sex qualifications; but as it is usually explained, there is but a slight chance for its realization. When it is known to a certainty that the queen-bee will deposit ova, worker or drone, regularly in new combs with cells ⅛, and often less than 1/16 inch deep, built on foundation sheets, the assumption is totally destitute of support, unless the pressure is exercised telescopically by the ovapositor on the bottom of the cells—the act being accompanied by an exertion that secures the ova in their places. Here, again, uncertainty of observation relegates the whole matter to the realms of conjecture.

It is very doubtful if a system of research can be instituted that will disclose the *modus operandi* to the satisfaction of the most expert scientist; for, judging from the many attempts that have been made to elucidate the mysteries that surround the known fact, that the queen-bee can alternate the sex of her ova with a precision that admits of no mistakes, there is certainly but a very slight opening for the most acute investigator to exercise his talents in attempts to solve the secrets that are involved in the results.

Cumberland, Me.

Your Neighbor Bee-Keeper—have you asked *him* or *her* to subscribe for the BEE JOURNAL? Only $1.00 will pay for it for a whole year. And, besides, *you* can have Newman's book on "Bees and Honey" as a premium, for sending us two new subscribers. Don't neglect your neighbor! See page 739.

Hiving Swarms on Drawn Combs—Bait Sections.

Written for the American Bee Journal

BY J. R. COMMON.

On page 823 of the BEE JOURNAL for 1892, is an article from Mr. Hutchinson in regard to hiving swarms on drawn combs in producing comb honey. Having tried it to my entire satisfaction, I am convinced that the bees will give double the surplus honey if hived on drawn combs, if rightly managed.

When the first swarm issues, I hive it in a hive filled with drawn combs, and give them the section-case that was on the old hive, or one with a few unfinished sections, and I never had any trouble in getting the bees to fill them.

I go to the old hive the seventh or eighth day after the swarm issues, and cut out all the queen-cells but one, and enclose that one in a queen-cell protector, giving them a case of sections with a few unfinished sections in the center, then I am not troubled with any more increase, and frequently I get from 80 to 100 pounds of surplus honey after the swarm issues.

Last year I was so careless as to neglect to give one of my colonies the proper attention, and a second swarm issued. I hived it on drawn combs, and about 15 minutes after it was hived a stray swarm came along and alighted on a bush; I put it in with the new swarm, and gave them a section-case baited with a few unfinished sections; they gave me over 20 pounds of surplus honey, besides filling their hive in less than three weeks, and making a rousingly strong colony that has wintered safely.

There is no better way to get the bees to work in sections than to give them a few unfinished ones in the center of the case for bait. When the white honey harvest is over, give the bees more frames, and when they are filled, if not needed, put them away in a warm room where they will not spoil, and they can be used for spring feeding. This will give you a lot of drawn combs if you are careful of them, and it is better than feeding sugar syrup to get the bees through. I never fed sugar syrup but once, and that was one year ago, when I did not happen to have a lot of drawn combs filled with honey. I found a few of my bees on the verge of starvation.

Save the dark honey for feeding, market the white, and let the sugar-honey business severely alone.

Angelica, N. Y., May 17, 1893.

Cure for Bee-Diarrhea, Wintering Bees, Etc.

Written for the American Bee Journal

BY "MONTREAL SUBSCRIBER."

As somebody in the AMERICAN BEE JOURNAL inquires about a remedy for bee-diarrhea, I beg to state some facts of past experience.

Last year, in February, I noticed that some of my bees in the cellar were suffering badly from diarrhea; the weather being not favorable for a cleansing flight (which is the best of all remedies), I simply cleaned the bottom-boards, which are movable, and placed under the frames a piece of brown paper on which a few drops of spirits of peppermint had been previously spilled. That seemed to stop the disease for two or three weeks, when I had to repeat the same process. I would like to see others try it next winter, and report. I should think that peppermint, which has the effect of helping digestion in human beings, might have the same good result on the bowels of the bees.

OUTSIDE WINTERING IN LOWER CANADA.

Last fall, seeing that my cellar is altogether too cold in winter, I resolved to try the "summer stands" system; and notwithstanding the extreme and continuous cold of this past winter, I succeeded to the best; for, the 10 colonies I had in November, 1892, are today (April 23rd) all in excellent condition. Of course, I was fully prepared for it, my hives (Simplicity style) being lodged in large, square wooden boxes, well packed with straw some 10 inches all around; the winter stores also were abundant, and the colonies strong.

The first general cleansing flight took place as late as March 8, 1893, when I closely examined the 10 colonies. Of course the bottom-boards were covered about ½ inch with dead bees, which is not surprising after such a long confinement (since Nov. 17th). But 5 colonies were pretty heavy still with stores, the 5 others more or less short of stores, and all with plenty bees. To the weaker ones I gave that day two thin cakes of maple sugar between the frames, which I found all gone on April 8th, when the bees had their second general cleansing flight.

One of the 10 colonies was a nucleus of Italian bees in five Langstroth frames with plenty of stores; it went through the winter O. K., and to my surprise, on March 8th, it was still heavy with stores. I really should think that with outside wintering, bees properly prepared, would consume less than in the cellar. Now, last year I had 6 colonies in the cellar, and besides suffering with diarrhea, in the spring they were all short of stores. But the reason is perhaps that my cellar is too cold for wintering bees.

VERY EASY AND COMFORTABLE OUTSIDE WINTERING OF BEES.

Here is my method of wintering bees on the summer stands; each hive is at all times provided with a large platform, say 3x4 feet, raised from the ground about 4 inches in front, and 6 inches in the rear, so as to make a gentle slope. On this large platform rests the hive on its movable bottom-board, also raised about 3 inches from the platform—a perfect ventilation and neatness, as you may see.

Now when cold weather is coming on each hive is well packed with chaff or straw in a wooden case made of two stories, with a movable cover made tight against rain or thawing, by galvanized or painted iron.

Mark that the whole case is large enough to allow 6 or 7 inches of straw packing on the sides, and 10 or 12 on top of the hive. (It also receives a coat of coal-tar on the outside only.) Mark also that the same case rests exactly on the edge of the large summer stand platform, so that the underside may be allowed free circulation of air whenever desirable.

Now, to make it still better rat or mice proof, only a narrow entrance is provided on the outer case, say ¼x4 inches; also a sort of wooden bridge is provided for the bees between the two entrances (the entrance of the case and that of the hive). Should any rats make their appearance, "Rough on Rats" will soon get rid of them—it is the best article I ever saw for the purpose.

But you might think that with such a packing the bees are left very little ventilation; that they are in danger of smothering if the entrance becomes clogged with dead bees, or shut up with ice. The danger is averted in this way: The bottom-board is at all times provided with two or four holes covered with perforated tin, and the large platform underneath is not air-tight, so that bees can get enough ventilation from the holes of the bottom-board.

But as I had some trouble the past winter in cleaning the bottom-boards, I intend to improve my wintering process

in this way: I will raise the hive 3 inches above the bottom-board by means of a frame 3x2 inches, on which the hive will rest. The front side of that frame will be a movable board only ¼ inch thick, having the usual hive entrance; that board being made fast to the hive by means of the straw packed against it. The bottom-board inside the hive will have a piece of brown or blotting paper to receive dead bees and any dirt falling from the frames. The lower story of the outer case will also have part of the front movable, say 3 feet by 6 to 7 inches in width.

Now here is the beauty of the whole arrangement: Whenever a fine day comes, allowing a general cleansing flight of the bees, or whenever you want to clean the bottom-boards, you first put aside the movable part of the front case, then draw the packing out of the way, and lastly the movable board of the aforesaid frame on which the hive is standing. Now gently draw the brown or blotting paper of the bottom-board (it will be more or less dirty), and immediately replace it with a neat and dry one, on which you may spill a few drops of peppermint. If necessary you may also feed the bees under the frames, with the ordinary cautions not to daub the bees. If the weather is very fine, you may also uncover the outer cases, so that in a few hours all the colonies will get a thorough cleaning and drying, with but very little trouble for the bee-keeper.

I tried, last year, in the cellar the brown paper and the movable-board system, and it proved a success. I don't see why I could not not use it in connection with the wintering-case system.

Montreal, Canada.

Employment in Colorado and California Apiaries.

Written for the American Bee Journal

BY C. W. DAYTON.

Several different parties in the East have written me about obtaining employment in apiaries in Colorado and California, and ask my advice, etc.

I would say that my experience is limited, so that they should go and experiment as I have done. But I have done with this kind of experimenting now.

First, I answered a "Want" advertisement in the AMERICAN BEE JOURNAL or *Gleanings*, and secured a position during last season with Mr. Chas. Adams, in Colorado, and a most agreeable position it turned out to be; but since responding to another "Want," I concluded that all are not Adamses, or believe and do as Adams does.

Mr. Tefft, sometime ago, stated that on answering a "Want" advertisement for a skillful apiarist, he received the answer that when they noted his age they had to smile, as they "wanted a young man to handle the bees and knock around the farm." This smiling may be fun for one party, but to the one who pays his money in railroad fares for a thousand miles and misses a job, it is less fun, so I say to those seeking jobs, beware of the "Wants" where such smiles come in. These smiling folks had best experiment near home by employing a skillful carpenter, and then set him at "knocking around" the wood pile.

In reaching the last position mentioned, I traveled 1,100 miles by rail, and arrived just as the family were departing on a visit to relatives. Bound not to interrupt their plans, I agreed to keep "bachelor's hall," and do the chores until their return, beginning about 11 o'clock in the forenoon. The rest of the day passed off smoothly, and I was beginning to settle my thoughts down most comfortably after taking a survey of the farm, surrounding country, and 150 colonies of neglected but well populated colonies of bees that I was to manage. There was plenty of good bee-country, and no bees nearer than six miles.

About an hour after retiring, there came a nibble from behind my ear, and I sent something about the shape and size of a gold dollar whizzing against the farther wall, with the exclamation, "That's the first interruption I ever had from one of those varmints!" On striking a light, a whole assemblage went scrambling seven ways from Sunday off the pillow. I had about concluded to start for a hotel, when the thought struck me to experiment a little, so I spread over the bed about 12 to 15 thicknesses of newspapers, and allowed them to project over the edge. I don't think I was molested until morning, except by a dreaming, half-awake kind of sleep.

I thought the varmints always nested in the wall, so the next morning all the clothing was hung on the fence all day. The next night I camped on the floor in the opposite part of the room, and I felt nothing, and heard nothing, but on striking a light I was equally surprised

to see them scramble off the clothing full fourteen ways from Sunday, and disappear in the cracks of the floor.

On undoing my grip, some had gotten inside, but I shook some garments, put on an extra amount of clothing, and went out and slept well in a wheat-shock.

The next day, when I took up a paper or book, I looked well on all its sides, even the supers and honey cans were suspected, and not unnecessarily, either, for I found the varmints entrapped in the oowls in the pantry, and swimming in dishes of cooked food. Some had fallen in the muzzle of the shot-gun that stood in the corner, and in the shaving mug on the corner bracket, and if I pulled a sliver from the gate-post I looked to see what was under it.

Now, this one particular fault is all I could make out against this job, but this one was so weighty that a day after, and some time before the return of the family, I put another thousand-mile ticket well down into my vest-pocket, leaving no explanation whatever. So I say to those who want a job, do not go to a job unless you can afford to pay your fare both ways, and lose it.

Pasadena, Calif.

Self-Hivers vs. Queen-Traps in Controlling Swarms.

Written for the American Bee Journal

BY ADRIAN GETAZ.

On page 401, our old friend Henry Alley argues that a queen-trap will catch a swarm as well as a self-hiver, all we have to do is to return the queen to the hive two or three days after the swarm has issued—so he claims.

In a foot-note of a similar article written by Mr. Alley for *Gleanings* (April 1st, pages 257 and 274), Mr. E. R. Root says: "The bees have been thwarted in their efforts to carry out the instinct of nature, remaining in the hive, frittered away their time doing nothing, and finally ended up by killing the queen." This was in reference to using queen-traps as advised by Mr. Alley.

Well, it is simply this: With a queen-trap the swarm returns to the old hive, the swarming fever *not* satisfied, and the whole thing will work in nearly every case as described above by Mr. Root. But with a self-hiver that would hive the whole swarm, the case would be entirely different, because then swarming would actually take place, the swarming fever be satisfied, and the swarm go to work with all the vim and energy always displayed by new swarms (at least I think so).

The supers should be put on the hive of the new swarm, and at least part of the brood-combs and young bees also transferred to the new hive, and the whole made a rousing colony.

I am afraid Messrs. Pratt and Root have made a mistake in placing the new hive under the old one. Lifting the old hive, and perhaps two or three supers, or even turning them, as they say, "cat-a-cornered," to ascertain which hives have been swarming, is too much work. Better have the hiver in front, and only a cover to lift. I somewhat suspect that they have done it, and also adopted a peculiar queen-escape instead of a cone, in order to avoid infringing on Mr. Alley's queen-trap patent, but I don't know positively.

In case the self-hiver and new hive should be left under the old hive for several weeks or months, the probability is that the work in the sections would cease, and the bees fill both new and old hives, with or without swarming. If working for comb honey, our aim would be defeated; if extracted honey is the object, better put the two hives one upon the other, without any self-hiver or honey-board; or, better still, adopt a large hive such as used by the Dadants, and most of the European apiarists.

Knoxville, Tenn.

The Proper Time to Put on the Surplus Cases.

Written for Farm, Field and Stockman

BY S. E. MILLER.

The question is often asked, "When is the proper time to put on surplus cases?" or, as they are more commonly called, supers. The question is generally answered by saying, When the bees begin to whiten the combs along next to the top-bar of the frame. This, however, is not always the best rule to follow, if, in fact, there is any particular rule at all.

I have seen the combs whitened as spoken of above early in the season when fruit-trees were in bloom, and this flow of nectar would last for only a few days. Then cool to cold and rainy weather set in and the bees actually had to be fed to keep them from starving. To have the supers on at such a time

would be worse than useless, yet there is an exact time when supers should be put on, and this time, as a rule, is rather short, for if put on before the colony is in a condition to commence work on them it will take considerable heat from the bees to warm up this extra space, and at this time all of the warmth that the colony can generate is needed to carry on brood-rearing advantageously. Often, too, the bees will tear down or gnaw holes in the comb-foundation starters if they are not in a condition to go to work building the starters out into full depth combs.

The starters, also, if allowed to remain too long unused, become hard and brittle, and are not so acceptable or so easily worked by the bees.

On the other hand, if we wait too long there are other conditions equally objectionable For, should the bees be gathering nectar quite freely, and have no room to store it above, they will commence storing it in brood-combs: soon every available cell is filled with honey, and the queen has no empty cells in which to deposit eggs, thus brood-rearing is curtailed, the hive becomes crowded, and the bees become possessed with a desire to swarm when it is very difficult to induce them to enter the supers, for where bees once commence storing their sweets, there they will persist in continuing their work, and when they have once got the idea of swarming in their little heads, they seem to think of nothing else, and will enter the supers very reluctantly if at all, and if they carry into effect their desire to swarm our best chances for a full crop of honey are past.

Thus we see that the time for putting on the supers is generally very short, and should be improved while it lasts. Therefore, each individual should study this subject for himself. Acquaint yourself with the condition of your colonies by making frequent examinations; note which are the strongest and give them supers first, for a few of the strongest may be in a condition to commence storing surplus while weaker ones may not get ready at all, for a colony that is not populous should not be expected to store comb honey, and can usually be worked to better advantage by running them for extracted honey.

Post yourself on the flora of your locality, that you may know just where to expect the greatest yield of sweets from field and forest, and you will soon be able to master the problem. Here in our locality the time varies according to the earliness of the season, from the latter part of May to the first week or ten days in June.

Where white clover is plentiful we may note when the bees first commence work on the bloom and consider that the time is at hand, for in a short time, if everything is favorable, we may expect strong colonies to be storing considerable quantities of the sweet nectar.

Bluffton, Mo.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Called "Lucky"—A Friendly Feeling.

The bees are "hustling." I lost 4 colonies out of 11, and people call me "lucky."

I enjoy the visits of the BEE JOURNAL very much. There is such a friendly feeling among the bee-papers, that the influence is worth the cost of the paper. My students enjoyed "Wung Lung's Experience," as they did the biography of Mr. A. I. Root—a rival editor. Surely, the devil finds poor picking among such men.

F. F. MAIN, B. S.

Newton Falls, O., May 22, 1893.

Age When Virgin Queens Mate.

I have read the article on page 461, on the age when virgin queens mate. J. A. refers to Mr. Wilder Graham's saying that a queen must mate within 21 days, or she never mates. I say the same. Of course there are exceptions to all rules, so there might be one out of a hundred that mates after she is 21 days old. I had one last spring to mate when she was about that age, but that was the only one in 22 years' experience—that is, I mean to lay worker eggs. J. A.'s queens must have been rather slim and poor, and got through the excluder and mated some time in the winter, or else they must have been some new kind of bees—may be they were Punics!

My experience in queen-rearing is, that a young queen will usually mate in from 5 to 7 or 8 days after hatching, if the weather is favorable, and usually lays eggs on the 11th; and if the weather should be so cold that she could not get out in about 21 days, she would be a drone-egg layer, and I consider her worthless. I want my queens

mated with pure drones. I want no drones from unfertilized queens. Some will say that the impregnation has no effect on the drone-egg, but I don't care for that, I will take mine fertilized, every time. It is the nature of the young queens to mate in early "girlhood," or not at all.

Clayton, Ills. THOS. S. WALLACE.

New Comb Built Out of Old.

Do bees utilize old comb to build new out of? I think I have proof positive that they do. I transferred a colony the other day for a neighbor, from a very old hive to a new frame hive. As the combs were very old and black, I did not use them, but put the bees on full drawn combs from my own apiary. As there were a few small patches of brood I wished to save, I cut it out and laid it on some sticks in the super for them to take care of, which they are doing very nicely. I examined them three days later, when I found a piece of comb suspended from the hive-cover as large as my hand. Directly over the patches of brood, lying in the bottom of the super, and the new comb and the brood-comb was exactly of the same color, very dark.

RUFUS WILLIAMS.

Crescent, Okla. Ter., May 15, 1893.

Bees Wintered All Right.

My 17 colonies came through the winter all right, and are in prime condition, although the season so far has been excessively wet and cool, but, notwithstanding all this, my colonies are strong in numbers, and are storing honey very rapidly from black locust bloom and red willow. White clover is beginning to bloom, but owing to the recent overflow of the Ohio river, the most of the clover crop has been destroyed. I had 2 swarms issue on May 10th. These being my first this year, makes the swarming season some 20 days later this year than last. I now have 19 colonies of bees of the Italian strain, which has given me great satisfaction in their care and management, and a fair return in good honey for the amount of labor performed.

I began bee-keeping some six years ago, and I am under more obligations to the AMERICAN BEE JOURNAL for the practical information regarding bee-culture than to all other sources combined. I am looking for a good honey-flow here this year, therefore I am ready for it.

B. F. BOULTINGHOUSE.

Rockport, Ind., May 15, 1893.

Can Bees Puncture Fruit?

In the convention of the Indiana bee-keepers, according to the published report, several members of the convention said they *knew* that bees could not puncture grapes, and this resolution was adopted:

Resolved, That it is the sense of the Indiana bee-keepers that it is an impossibility for bees to puncture grapes or injure them.

Either the Indiana bee-keepers have studied bees wrongly, or the bees in Indiana are a weak and shiftless race. I fastened a surplus comb into a section with hard-wood tooth-picks. A grating sound led me to examine, to find out what was going on in that hive. The bees had carried away bit by bit nearly all of one pick, and part of the other, and it was diminishing fast. If bees can bite off hard wood, they may enter ripe fruit.

Bees do not, however, puncture fruit, because no fruit has any attraction for bees—no more attraction than a stone or a piece of wood—when it is sound; but when the fruit begins to leak, from various causes, then the bees are drawn to it, tear away the skin, and carry off the contents. But bees can puncture fruit, that is, it is a physical possibility, as they can puncture and tear away or bite off hard wood.

GEO. A. STOCKWELL.

Providence, R. I.

Report from Eastern Kentucky.

The winter in Eastern Kentucky is said to have been the coldest for 60 years. All the apiarists winter their bees on the summer stands, the consequence last winter was, that nearly all the bees froze to death. When the temperature got down to zero, I covered my hives with hay. Six colonies pulled through with a few bees. The last of February and the first of March we had three weeks of warm weather, and I gave my bees free access to all the honey they wanted from other hives where the bees had died, and they commenced rearing brood. Though we have a late spring, my hives are full of bees, and they have commenced whitening their combs. Our best honey season is just commencing now—the poplar and white clover. Most of the bee-men are discouraged, and say they are going to quit the business. That will give a better field for me.

I wish much success to the old AMERICAN BEE JOURNAL. I am well pleased with the pictures of our brother and sister bee-keepers, and biographical sketches. I am glad to know that they are Christians; that makes us believe one must control himself before he can control his bees.

(REV.) MILLER FAIRCHILD.

Sip, Ky., May 12, 1893.

Perhaps Not Fertilized in the Hive.

I would like to say a few words on Dr. Tufts' article on page 340, in regard to the laying queen that I found in an upper story. I asked Mr. Doolittle about it, and he replied thus:

"Unbeknown to you, or *otherswise*, there was a crack or hole in or about one of those upper stories large enough for the queen to go out and return to meet the drone, and she was fertilized without doubt on the wing, as all queens are."

I was nettled by Mr. Doolittle's answer, for the reason that he thought that I tolerated holes in my hives, and also his ap-

plying the word *otherwise*, for by that it just seemed to me that he distrusted me, and that I was trying to "work" him (as the boys call it). Now, if Mr. D. thought so, he was mistaken, for nothing could be more remote from my mind.

I was hasty, and did jump to the conclusion, as there was a queen-excluder below the super that she was fertilized in, and not considering at that time that a virgin queen being so much smaller than a laying queen, she could possibly squeeze through a perforation of an excluder, and that is just the way she got out if she mated on the wing. Now, here is where I made the error—I said she had not been out of the hive, and I ask the pardon of the BEE JOURNAL readers for the same. Now that is my iniquity, and as the crime is no greater, it seems unjust in my honored friend of the Sunny Southland to make me the butt of ridicule.

I take a great interest in bee-keeping—greater even than in the business that I chose in my younger days, and worked at for 35 years (that of a blacksmith), yet I never got so much comfort in all those years as I have in less than ten years of keeping bees. I am delighted with it, and that feeling grows all the time.

Some years ago a writer in *Gleanings*, under the *nom de plume* of "Ole Fogy," was morally certain that a swarm never absconded without first settling, and continued to assert it. So, Doctor, I am not the only sinner. Well, "Ole Fogy," was converted, as he had a swarm come out and start for parts unknown without as much as saying, "By your leave, Ole Fogy." So the friend just took off his paint and feathers, and acknowledged his error. So I think that the *Gleanings* family forgave him, and said, "Go and sin no more."

JOHN MCKEON.

Dryden, N. Y., March 24, 1893.

Disastrous Year for Bees.

The past year has been the most disastrous for bees that I have experienced. Of 73 colonies one year ago, I can now count but 30, and the majority of these are in poor condition. J. F. LATHAM.

West Cumberland, Me., May 30, 1893.

A Letter of Appreciation.

I wish to congratulate you on the continued success of the AMERICAN BEE JOURNAL. I have been a regular subscriber for the last eleven years, and have always thought the AMERICAN BEE JOURNAL one of our ablest, best conducted, and richest in news for bee-keepers, of all our apicultural journals.

Your biographical sketches and portraits are very interesting, and especially so to those of us in Europe who cannot make the personal acquaintance of such men as Doolittle, Tinker, etc. The sketches are very pithy, and tell us all about the fads and hobbies of those we have a deep respect for. Your editorials and poetical selections have a high moral and elevating tone, and all together I value most highly the weekly visits of the "Old Reliable."

Newtownards, Ireland. WM. DITTY.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, June 10th, 1893:

CHICAGO, ILL.—There is not much movement in comb honey. Prices range at from 12@16 and 17c., all good grades bringing 15@17c. A few cases of the new crop have arrived and brought the top prices. Beeswax is very steady at about 25c. Extracted honey is moving very slowly at from 6@8c.

R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.

Beeswax—20@23c. C-M. C. C.

CINCINNATI, O.—A short supply of extracted honey is the cause of a slow demand. It forbids an effort on our part to sell. It brings 6@8c. There is no choice comb honey on our market, and prices are nominal at 12@16c., in a small way.

Beeswax—Demand good, at 22@25c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—New crop of extracted is arriving freely. Market is quiet and demand limited. Fancy grades sell at from 7@8c.; common to fair, at from 60@70c., as to body, color and flavor. Beeswax, 26@27c.

H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.

Beeswax—None on hand. B. & R.

ALBANY, N. Y.—Honey market is very quiet now, as between seasons. Beeswax—at 30@32c. for good color. H. R. W.

MINNEAPOLIS, MINN.—There is quite an active demand this week for honey, especially white comb honey in 1-lb. sections. Dark is very slow sale. Stock on hand in this market is very light. Receipts have not been enough to supply trade during the past 10 days. Fancy white comb honey, 18@20c.; No. 1 white, 17c.; fancy amber, 16c.; No. 1 amber, 14c.; fancy dark, 12c.; No. 1 dark, 10c. Extracted California 60-lb. kegs, 9c. Beeswax, unsalable. J. A. S. & Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.
F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway

San Francisco, Calif.
SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.
J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.
HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.
H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.
CHAS. DADANT & SON.

Cincinnati, Ohio.
C. F. MUTH & SON, cor. Freeman & Central avs.

Bee-Keeping for Profit.—We have just issued a revised and enlarged edition of Dr. Tinker's book, called "Bee-Keeping for Profit." It details his most excellent "new system, or how to get the largest yields of comb and extracted honey." The book contains 80 pages in all, and is illustrated. Price, postpaid, 25 cents, or clubbed with the BEE JOURNAL for one year, for $1.15.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

WANTED—2nd-Hand Barnes' Foot-Power Saw. J. A. BALMER, Vincennes, Ind.

TO EXCHANGE—High Grade Safety Bicycle, for Honey or Wax.
17Atf J. A. GREEN, Ottawa, Ill.

WANTED TO EXCHANGE—A nice 8-tune Music Box, for a Barnes' Foot-Power Saw or a good Scroll Saw. Address,
H. L. VON LIENEN,
Somerset, Saline Co., Ills.

WANTED TO EXCHANGE—Love and affections and a good home, for a lady partner as a wife and some money to go into a paying business; between the ages of 40 and 50 years. All letters answered. Address,
R. MILLER, Compton, Lee Co., Ills.

WE OFFER

COMB FOUNDATION

WHOLESALE AND RETAIL,

AT VERY LOW PRICES.

☞ Satisfaction and All Work Guaranteed.

Part of our Machines are here, and we will be able to fill a few orders next week at prices ranging **from 36 to 56 cents per pound.**

Remember, we are **pushing matters** as fast as possible, and **will not be undersold**

Send your name and address, for we do not know you and we will keep you posted.

BEESWAX WANTED. Write for Prices

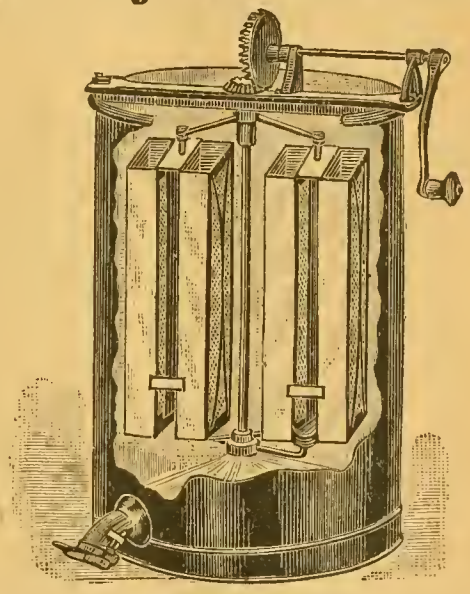
W. J. FINCH, JR.,
931 E. Monroe St., - SPRINGFIELD, ILLS.

Mention the American Bee Journal.

Something Entirely New.

ONLY PERFECT AUTOMATIC

Honey-Extractor



BEST of Testimonials can be given as to the perfect working of the above Honey-Extractor. Simple in Construction. **Without Band or Chain.** Price moderate. We are prepared to ship from the United States. The 4-frame Langstroth, can diameter 24 inches; 8-frame 27 inches.

Goold, Shapley & Muir Co., Ltd.

BRANTFORD, CANADA.

Patent for above. Either State or larger territory may be purchased from us.

Manufacturers and Dealers in All Kinds of

Bee-Keepers' Supplies.

Mention the American Bee Journal.

Pure Italian Queens !

BRED from Imported Mother. 75 cents each; 3 for $2 00. Can ship promptly after June 15th. These Queens are Beauties. Safe arrival guaranteed.

STEWART BROS.,
24E2t SPARTA, TENN.

Mention the American Bee Journal.

TAKE NOTICE!

BEFORE placing your orders for SUPPLIES, write for prices on 1-Piece Basswood Sections, Bee-Hives, Shipping-Crates, Frames, Foundation, Smokers, etc.

PAGE & KEITH, New London, Wis.

READERS Of this Journal who write to any of our advertisers, either in ordering, or asking about the Goods offered, will please state that they saw the Advertisement in this paper.

SPECIAL OFFER.

DURING the month of July, **LEININGER BROS.** are going to boom their QUEENS by sending **one Warranted Queen for only 50 cents.** We do this to introduce our Queens in your locality.

24Atf **FT. JENNINGS, OHIO.**

Refereuces—A. I. Root, the AMERICAN BEE JOURNAL, or W. Z. Hutchinson.

Mention the American Bee Journal

FREE TRIAL

for ten days in your own home. $60 Kenwood Machine for - $24.50 $50 Arlington Machine for - $20.50 Standard Singers, $9.50, $15.50, $17.50, and 27 other styles. We ship firstclass machines anywhere to anyone in any quantity at wholesale prices. All attachments FREE. Latest improvements. Send for free catalogue and save money.

WE PAY THE FREIGHT. NO MONEY REQUIRED IN ADVANCE.

Address (in full) CASH BUYERS' UNION,
158-164 W. Van Buren St., Dept. 55, Chicago, Ill.

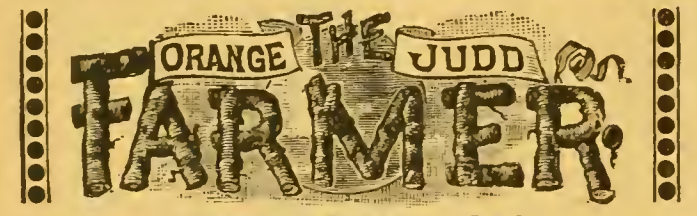
24E5t *Mention the American Bee Journal.*

DOVETAILED AND SIMPLICITY HIVES!

Sections, Extractors, etc. 60-p. Catalog.
A Full Line of Bee-Keepers' Supplies.

J. M. JENKINS, WETUMPKA, ALABAMA.

24E10t *Mention the American Bee Journal.*



WEEKLY $1.00 A YEAR.

Founded by the late ORANGE JUDD, and now Edited by his Son,
JAMES STRONG JUDD,
—— And Many Practical Men and Women. ——

Recognizing the fact that our Readers want Special Accommodations at the World's Fair—safe from fire—and not high-priced, we have rented 6 acres within 7 blocks of the Exposition, to be known as the

••• Orange Judd Farmer World's Fair Camp.

OPENS MAY 1st, 1893—CLOSES NOV. 1st, 1893. •••

The Best Tenting Accommodations near the Grounds—A Choice (1) of a Cot in a Practically Water-Proof Tent on a Board Floor—(2) Of Tenting Ground only if You have your Own Tent.—(3) Of Lodging Under Cover in the Annex, or (4) Lodging in a Room in the House.

Prices for a single Cot in a Tent on Board Floor $3.00, or including a Year's Subscription to the **ORANGE JUDD FARMER** $3.25. Circulars giving full particulars about all the different Accommodations named mailed to any address free upon request, together with Sample Copies of the **ORANGE JUDD FARMER.**

Coupons Should be Secured Now, so that all may be provided for. Each Coupon is good for a certain specified week (from Monday to Monday).

THE ORANGE JUDD FARMER has always been acknowledged to be the best Farm and Home Weekly Journal in the United States.—Fourteen Departments, covering the entire Home and Farm, under the direct supervision of as many Special Practical Editors and Editresses, aided by a large number of Special Writers on all topics. Better Illustrated than any other Weekly Journal of its kind in the country.

Address ORANGE JUDD FARMER CO., 358 Dearborn St., Chicago, Ill.

Great Premium to New Subscribers on page 739 !

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., JUNE 22, 1893. NO. 25.

Michigan Apiarists are to make an exhibit at the World's Fair. The State has finally appropriated $500 for making the apiarian display, and Mr. H. D. Cutting, of Tecumseh, Mich., has charge of it. Any Michigan bee-keeper that can furnish anything for exhibition should correspond with Mr. Cutting at once.

The Centralblatt, for June 1st, contains a communication from Dr. C. C. Miller, written in as fine German language as any one could wish for. In the latter part of his letter the Doctor urgently invites all German bee-keepers to be present at the North American bee-convention in Chicago, Oct. 11th, 12th and 13th. Every American bee-keeper will heartily second that invitation.

State Experiment Apiaries are now receiving some very much deserved attention. On page 787 of this number of the BEE JOURNAL Bro. Hutchinson tells how they succeeded in securing such an apiary in Michigan; and on page 784 Dr. Miller writes on the needs of such an apiary. The bee-keepers in several other States besides Michigan have finally realized their hopes in this line, and we trust that the apiarists in the rest of the States will bestir themselves at once. Bro. Hutchinson describes so clearly just how to go about getting experiment apiaries, and Dr. Miller gives some good arguments as to their importance to bee-keepers, and to the State in general. In a private letter to the Secretary of the Illinois State Bee-Keepers' Association, accompanying his essay, the Doctor said:

> I have no excuse to offer that my essay has been hastily prepared. That it is not better is because I have not the ability to make it better, for I deem it a matter of great importance, and have given it my best thought. I hope earnest action may be taken, and that good results may follow.
>
> C. C. MILLER.

We hope the subject will now be thoroughly discussed, its supreme importance be faithfully impressed upon the Boards of Agriculture of the various States, and the evident justice be accorded the long and much neglected bee-keeping industry. Bee-culture is too intimately connected with horticulture and other branches of agriculture to be longer neglected or slighted. Let us kindly, but clearly and firmly, present our case, and then see how readily the generous Boards of Agriculture will help us as well as themselves.

Bro. Hutchinson says: "As agriculture is at the foundation of all other kinds of business, so everything connected with bee-culture rests upon honey-production. When that ceases to be profitable, queen-rearing, the manufacturing and sale of supplies, and the publication of apicultural literature, will be dropped. Profitable honey-production is the basis."

"Bees and Honey"—see page 771.

Some Supply Dealers are having good trade this season, as is shown by the following, which we take from the *American Bee-Keeper* for June, written by one of the largest dealers in this country:

Although doubtless there is a much less number of bees in the country this spring than for several years before (owing to the past two or three poor seasons and hard winters), the demand for supplies is better than it has been since 1890. If this season proves to be a good one for the bee-keepers throughout the country, we think a new impetus will be given the pursuit, and many former bee-keepers will go to keeping bees again. Of course it is hardly probable, or to be expected, that over so large an area as our whole country represents, there would extend a successful season. There will always be some places where drouth or flood, heat or frost, will prevent a bountiful flow of nectar.

The Iowa Apiarian Exhibit at the World's Fair is in charge of Mr. E. Kretchmer, of Red Oak, Iowa. He is very anxious that the honey and wax exhibit of that State shall be unexcelled, and desires the co-operation of every bee-keeper that can aid in making the display. In view of this, Mr. K. wishes the following letter not only published, but read and acted upon by apiarists of Iowa:

I have recently returned from the World's Fair grounds, where I arranged the first installment of the Iowa honey exhibit.

Owing to the poor season in many localities the past year, the *first* installation of *fine* honey was somewhat limited, and the uniform size of the cases in which the different State exhibits are made is about 800 cubic feet each; we desire some more comb and extracted honey of this year's crop, as soon as it can be obtained. We especially desire *white clover* and nice *basswood* honey, both in comb and extracted; and if the bee-keepers of Iowa will make an effort to have something nice, Iowa will have an exhibit not excelled by any—one that every citizen of the State can be proud of.

We have already several flattering promises, but we desire *your* co-operation. Will *you* get us some nice honey, also some honey in fancy forms, such as letters, hearts, stars, crosses, or other attractive designs; also some nice bright wax in fancy forms, such as columns, globes, arches, letters, (your name for instance), some figures of wax worked into flowers, wreaths, etc.? Would you not feel proud if a Medal or Diploma were awarded you by the largest World's Fair ever held?

Such contributed parcels of honey, wax, etc., will be sold at the close of the Exposition (or sooner, if necessary to replenish it), for the benefit of the exhibitor, or disposed of as he may direct. Honey from the World's Fair will bring the *highest* price, and, please observe, the Iowa Columbian Commission pays the freight to take it to Chicago, and the Fair Grounds also provides the glassware for extracted honey.

Extracted honey may be shipped us in 60-pound tin cans, but great care should be used in packing comb honey. Pack only in single-tier cases holding from 12 to 24 sections (glass is not needed), and in order to guard against damage from a broken or leaky comb, the case should be nearly a half inch deeper than the height of the section; place a sheet of paper (manilla preferred) on the bottom, let the edge turn up a little, lay some three-cornered pieces across this paper in such a manner that each section sets on two of these strips, thus forming a space with a paper pan under the sections for the leakage, without contaminating the adjoining wood. Wedge the sections up, place the several cases in a box with several inches of straw under it; wedge them up so they cannot shake about; on the top mark in a conspicuous manner: "Handle with care—this side up." Direct it to E. Kretchmer, Red Oak, Iowa, and ship by *freight*. We shall keep suitable shipping-cases, packing boxes, or crates wherein to pack the cases, and labels on hand, so that if these cannot be had near you, they may be obtained from here.

Please write me at once, stating what you think you can do. We should also be pleased to learn from time to time how you are succeeding in getting something nice.

If we can assist you by way of suggestions, or information concerning the above, write me at any time, and it shall give me pleasure to answer. E. KRETCHMER,

Ass't in charge of Apiary Dept.

Red Oak, Iowa.

Samantha at Saratoga is one of the best books ever written. See page 773 of this number of the BEE JOURNAL. We offer it free to those sending us three new subscribers, and also give to each of the three subscribers a free copy of the premium edition of "Bees and Honey." This is a most liberal offer, and should be taken advantage of now. It expires Aug. 1st.

Bicycles are getting to be very common now-a-days. We have two for sale, and any one wanting a bargain in a good bicycle, should write to the office of the BEE JOURNAL.

Mr. John McArthur, of Toronto, Canada, reports half the bees dead in Canada, and that he has a carload on the way from Tennessee.

Bro. Doolittle reports the bees in poor condition.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED

Yellow Sweet Clover.

I send a specimen of a flower that has come to my notice within the last two years. I don't know what it is called. Will you please tell what it is? It looks like sweet clover, only it has a yellow bloom instead of white; and it blooms earlier than sweet clover, which makes it a great honey-plant in this locality, coming into bloom, as it does, between fruit-bloom and the general clover bloom. H. C. WHITE.

Jewell, Kans.

ANSWER.—The clover is the yellow sweet clover—*Melilotus officinalis*, referred to in Prof. Cook's "Bee-Keeper's Guide," page 354. All melilot clover is excellent for honey.

Questions on Queen-Rearing.

1. Is it best to rear queens in the brood-chamber, or above in the supers, using queen-excluding zinc?

2. What is Alley's new method of rearing queens?

3. Is it best to use some kind of a protection for the queen-cells?

4. If so, what, how and when?

5. Is it necessary to have bees with the capped queen-cells in order to enable the queens to emerge from their cells? Or what benefit are bees to capped queen-cells except to keep them warm?

6. Can they be hatched by incubation, and how?

7. Should the colonies of bees be divided before the queen-cells are sealed?

8. How long is it after they are sealed until they issue from their cells?

9. Can they emerge without aid from the bees? DR. S. M. KIMSEY.

Tesnatee, Ga.

ANSWERS.—1. Queens may be reared in supers, among sections of honey, but the practice is not considered advisable. Perhaps you mean in upper stories of brood-combs. This plan is considered desirable by some, because the queen may be allowed to continue laying below while queen-cells continue to completion above.

2. Space will hardly permit to give Alley's method in full, which may be found in his book, which we can send for 50 cents; but a special feature of it is that the cells are reared so as to be easily detached by having them reared on little strips of comb, taken with very young larvæ, every other cell having its larva destroyed.

3. That depends. Perhaps it can do no harm in any case to have something like West's protectors, and if cells are left in the same place until one of the young queens hatches out, something of the kind is absolutely necessary.

4. Put the cells in West's protectors, after they are sealed over.

5. No, queen-nurseries have been extensively used containing no bees, and depending entirely on artificial heat. We have known queens to hatch out in good shape lying for several days on the shelf of a kitchen cupboard. After the queen-cells are sealed, bees seem to be of no further use except to keep up the heat.

6. After being sealed over, you can have them hatched out anywhere you like, providing you keep them warm enough.

7. It is not necessary to have nuclei formed more than a day or two before time for queens to hatch.

8. About a week.

9. Yes.

Bees Died with Plenty of Honey.

Why did bees die the past winter when they had plenty of honey in the hive? I lost 5 colonies, and some of them had 50 pounds of honey each, while others having not more than 10 pounds each, wintered all right. My bees were in Simplicity hives. It was the first bees I have lost in six years. I have had as high as 40 colonies, and did not lose one. For three years I have been following the directions found in Mr. Root's book. E. W. BROOKS.

Hoop, Tenn., May 15, 1893.

ANSWER.—Not a few colonies died from starvation last winter with abundant stores in the hive. There might be 50 pounds of honey in a hive, and not a very strong force of bees. In some places—although one would hardly think in Tennessee—the cold spell continued so long that all the stores within imme-

diate reach were consumed, and it was too cold for the bees of a weak colony to break cluster to get a new supply. In that case the remaining 50 pounds could not prevent starvation. Possibly queenlessness may have been the trouble, the bees dying off from old age.

Barrels for Extracted Honey.

Please give me some advice in regard to the use of barrels for storage of extracted honey. I cannot obtain *new* barrels, but have the usual choice of empty ones from grocery or liquor stores. I greatly injured the flavor of a quantity of nice clover honey last season, by storing in wine-casks, though the same had been carefully waxed in accordance with instructions in the "A B C of Bee-Culture." I am inclined to favor high wine or syrup casks, thoroughly sealed and waxed, but would like advice from some one having experience.

Hull, Quebec. SUBSCRIBER.

Chas. Dadant & Son, of Hamilton, Ills., whose wide experience gives weight to whatever they say in bee-keeping, answer the above as follows :

We have always used second-hand barrels for extracted honey. Those that we prefer are barrels that have contained pure alcohol. Such barrels are not charred inside, but are gummed instead with a preparation of glue which honey does not dissolve, and they do not leak, unless they have been exposed to the weather, or filled with water.

We have also used, without unpleasant effects, whisky barrels, but these are often charred on the inside, and this must be ascertained before they are used, as it is of great importance. The little pieces of charcoal which become loosened from the walls of the barrel mix with the honey, and are very difficult to remove, as they float about in the honey, after having become soaked with it. Charred barrels should be discarded.

We would not advise the use of any other barrels, unless they are new. We will say, however, that a barrel that has contained wine, molasses or syrup, may be used if it has been thoroughly cleansed.

To cleanse a barrel thoroughly, it is best to remove one head, and some care must be exercised in order to replace it in the same position, or the barrel might leak. Follow these precautions :

First mark the head and the chime, or end of staves, with a chisel or some sharp instrument, so that you may find the exact position occupied by the head, when putting it back. Mark two places so as to make sure. Then take a large gimlet and screw it into the middle of the head for a handle, taking care not to pierce the head through. Then remove all the hoops except the top one. They may also be marked, if necessary, so as to be returned to the same position. When all are removed but one, have some one hold the head by help of the gimlet until the last hoop is off. When the barrel has been cleaned, put the head back in the same position.

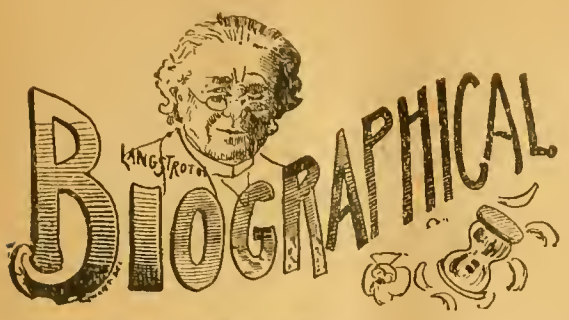
We would not advise any one to use barrels with any sour or smutty smell, but such barrels, in a case of necessity, may be cleaned by washing them after removing the head, with a pint of oil of vitriol mixed with about two gallons of water, or with a little caustic lime diluted in water. But after cleaning a barrel in this way, it should be again washed with water, and scalded if need be. A few days of exposure to the air will help.

Old barrels, the wood of which has become soaked with water, are very objectionable, the more so as they will dry when filled with honey, and in drying will shrink to such an extent as to be unable to hold their contents. The right kind of barrels to use should not leak when very dry, and that is why we prefer the alcohol barrels to any others, as the very dryest timber is used in their manafacture.

We used to wax barrels years ago, but abandoned the practice, as we found it rather expensive and inefficient.

After emptying honey-barrels, we place them in a dry shed. We do not wash them until ready to fill them again, and then only use a small quantity of hot water. We use iron-bound barrels exclusively, as the hoops may be tightened much more efficiently than wooden hoops. We have never experienced any difficulty in procuring all the barrels we needed at from $1.00 to $1.50 each, even in the season of 1889 when we harvested some 85 barrels of nice clover honey. CHAS. DADANT & SON.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.



CHARLES H. DIBBERN.

We are pleased to show our readers another new face this week, but the name is quite familiar. Mr. Dibbern has for years been one of the "Old Guard" in our department of "Queries and Replies;" and on account of other of his many and valuable contributions to the literature of bee-culture, he is well known in apiarian circles. The following will give some facts regarding Mr. Dibbern and his life on both sides of the "big pond:"

C. H. DIBBERN.

The subject of this sketch was born near Kiel, Holstien, Germany, on Oct. 15, 1840. His father was a wagon-maker and a bee-keeper in a small way. His earliest recollections are of a row of old-fashioned straw hives, and watching his father secure the honey by drumming in September. So interested was he in bees while yet a little fellow of five or six years, that he secured the help of his older brother in constructing small clay hives, and placing bumble-bees' nests in them, and watching the big, clumsy fellows come and go, with great glee.

In 1847 the clouds of war began to darken his native land, and fortunately the family decided to try to better their condition in that new land—America.

At that time there were no railroads west of Chicago, and for that reason the best route to reach the then far West was *via* New Orleans. In June, 1847, they reached Davenport, Iowa, and soon settled on a farm near that place.

In 1851 the family removed to Moline, Ills., where Charles received such an education as the High School there at that time afforded. Hardly had he finished the course, when the Civil War broke out, and with thousands of others he went to the War. He served for three years in the 66th Illinois, and was present at the battles of Donnelson, Shiloh, Corinth and Atlanta, together with what seemed innumerable skirmishes. When his time was out he returned to Moline, to take up the avocations of peace.

After securing a commercial college education, he for six years was book-keeper for a large milling firm. In 1871 he concluded that he could do business on his own hook, and bought out a run-down hardware business at Milan, Ills. To this he added agricultural implements, and other branches, and by industry and perseverance he soon worked up a good business, which he still continues in connection with his son, Henry S.

In 1865 he secured his first colony of bees from an Iowa farmer, who brought them over the Mississippi river on the ice, in February, on a bobsled. That season he increased to 3 colonies, and secured about 50 pounds of surplus honey. This greatly encouraged him, and that year he bought two more colonies. From such a start he has had bees ever since, at one time running up to 250 colonies, and securing very nearly 20,000 pounds of comb honey. That mas in 1889, and the past three poor years have reduced his apiaries to about 150 colonies.

The tin T super was original with

him, and at the time, about 1884, he had some discussion with James Heddon about it, in the AMERICAN BEE JOURNAL.

In 1889 he invented the horizontal bee-escape, and although others have claimed previous invention, it cannot be denied that the modern bee-escape, as a practical implement of the apiary, dates from the time he published his device in the AMERICAN BEE JOURNAL, Nov. 15, 1889. Of late years he has devoted a good deal of time to experimenting, to make the device more rapid and more perfect. He has also done much to make the self-hiver a perfect success, which he believes he has now about attained. He has never rested entirely satisfied with existing implements and fixtures. His hives, supers, and other fixtures, are nearly all of his own invention. He has never patented any of his inventions, but has freely published, and given them to the fraternity.

During the 27 years of his bee-keeping experience, he has been an occasional correspondent for nearly all the bee-periodicals. For seven or eight years he was the apiary editor of the *Western Plowman*. Of late years he has given over the management of his hardware business mostly to his son, he preferring to stick to the bees. In his earlier bee-keeping he was greatly assisted by his wife and son, who did most of the hiving, etc. He is still young in bee-enthusiasm, and new inventions. It is not likely that bee-keepers have yet heard the last of C. H. Dibbern.

A FRIEND.

Amerikanische Bienenzucht is the name of a bee-book printed in the German language, which we now have for sale. It is a hand-book on bee-keeping, giving the methods in use by the best American and German apiarists. Illustrated; 138 pages; price, postpaid, $1.00. It is just the book for our German bee-keepers. We club it with the BEE JOURNAL for one year, for $1.75.

Dr. Miller's "A Year Among the Bees" is a book of over 100 pages. It commences with the necessary work in the spring, and runs through the entire year, detailing the methods of doing, as well as telling when to do, all that should be done in the apiary. Bound in cloth. Price, postpaid, 50 cents; or clubbed with the BEE JOURNAL for one year, for $1.35.

"Bees and Honey"—page 771.

CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Introducing Queens Safely.

Mrs. Atchley, please tell me a safe way to introduce queens.

THEODORE VERHAALEN.

Saukville, Wis.

Friend V., I do not know of an absolutely safe plan, only by placing the queen on the frames of hatching brood, and that is a stale plan, and about out of date. The *best* way is by the candy plan, but be sure you have plenty of candy and a small hole for the bees to eat into where the queen is, and if other conditions are right, you will find it a success.

No. 1.—Texas and Her Resources.

Dear readers, as it has been announced that I would give the resources, the best localities for bees and for farming, etc., of Texas, I now proceed to do the best I can for you. I do not wish to be sensational in any direction, but will be conservative, and relate to you the exact truth of everything just as I know it and as I see it. I am very much crowded with my work, but as there are nearly one hundred of our readers wishing to know of Texas, I take time enough to give you a brief outline.

First, we will begin with Northwest Texas, or what is known as the "Pan Handle" country. This is a narrow strip lying between New Mexico and the Indian Territory, being a small-grain country, especially wheat. Corn does fairly well when it rains enough, but this portion is a little subject to drouth, but seems to be more seasonable, as the land is settled up. This section is pretty cold in winter, about like Southern Kansas. Land is worth from $2.00 an acre to $10.00, owing to how close you get to a railroad. You can buy land and

get your own time to pay for it. Almost all kinds of fruit grows in the Pan Handle—apples, peaches, blackberries, strawberries, dewberries, and nearly all kinds of fruit grow well.

This is a fine stock country, and bees do well in most counties, as horsemint is plentiful, and there is an abundance of wild flowers, but cotton does not do well, and the bees get no cotton honey like we do here in the more eastern portion. Timber is plentiful along the little creeks, but rather scarce on the prairies. Water is plentiful in most places, and rather easily obtainable by digging wells from 20 to 100 feet deep. Horses are worth from $10 to $100, according to size and disposition; milk cows range from $10 to $30; and labor on the farm is about $15 to $20 per month.

The land in the Pan Handle produces from 10 bushels to 40 bushels of wheat per acre. These Pan Handle counties are settling up rapidly with a progressive class of farmers from Kansas, Nebraska, and some from almost all States. Good churches and schools are scattered all over these parts, so that every family has easy access to them. Everything raised on the farm has a ready sale, and usually at remunerative prices.

Now we will drop down to the first and second tiers of counties, bordering on Red river. Here we strike a rich farming belt of country. It is said by the farmers in these rich, black-land belts that a farmer can grow three times as much as he can gather. Wheat, oats, corn, cotton and potatoes do well, as it often transpires that 400 bushels of sweet potatoes are harvested from a single acre, and if the land is properly prepared, they grow with but little work. Corn usually makes from 25 to 75 bushels per acre, wheat 10 to 30 bushels, oats 50 to 100 bushels.

Most kinds of cereals and vegetables grow luxuriantly, and through this black-land belt there has never been a failure of crops since it was put into cultivation.

Now, for the other side: As we have all learned that there is no rose without its thorns, I will say that in this rich belt every one is a land-holder in wet weather, as you cannot make a track, as you pick up your tracks and carry them with you, and to be a little laughable I will tell you that I have seen our folks stall right in our fields within two hundred yards of the house, with four mules to an empty wagon, every wheel becoming so clogged with mud as to stop them from turning, and you could not tell what the wagon was made of. But this mud is mostly during the winter and early spring, and the farmers are learning to do their hauling during the summer and dry seasons, for when it is dry here you can draw all you can get on a wagon, and it is said you must only load the wagon to its capacity as the load is nothing to draw, as the roads are like a pike in dry weather.

The next grand objection to these rich lands is the chiggers, or red-bugs. I have often picked up a piece of earth as large as a hen's egg, and counted more than 100 red-bugs on it, and they are all over the black lands this way; some people they do not hurt, and others can't stand them. But if you will make up your mind to take the rose and the thorn together, there is no reason why any one cannot make money here.

Land in this black farming belt is now pretty high, ranging from $20 to $40 per acre. Bees do well all through this last described country, as all kinds of honey-producing plants thrive and do well, the land being very rich.

Timber is plentiful, and water, too, and good markets for all farm products. Corn, cotton, wheat, oats, potatoes, melons, rye, barley, millet, and nearly all other farm products and garden vegetables do well, that are grown in the United States, and find ready markets. Fruits, such as peaches, pears, plums, grapes, strawberries, and almost all small fruits grow well except apples, which only grow to do much good on sandy soil.

The people here are law-abiding citizens, and when you come among them you are treated kindly, and you usually find people just such as you leave, as they come here from all parts of the country.

JENNIE ATCHLEY.

(To be continued.)

The Honey-Plants of Northern Texas, and How to Utilize Them.

Read at the late Texas State Convention

BY DR. WM. R. HOWARD.

In the consideration of honey-plants of Northern Texas, it will be necessary to draw largely from an essay on this subject, written by me thirteen years ago, and published in the AMERICAN BEE JOURNAL.

Honey-plants include those which are visited for pollen, as well as those which furnish honey; and will be mentioned here commencing with those which are first to bloom, calling attention to their

products and their value to the bee-keeper.

Without going into detail of the microscopical appearance of the various pollen-grains, and the process of Nature's chemical laboratory in the production of honey, or the wisdom of purpose in the fertilization of plants, I will mention that, though all plants blossom in their seasons, yet the best honey-plants do not at all times yield honey. We all know that during warm weather, with a humid atmosphere, which must obtain during the unfolding of the flower, we have the peculiar conditions necessary for the greatest production of honey; and the absence of these conditions, but for a few hours, will limit, and sometimes entirely suspend, the elaboration of honey for a whole day. As a rule, the flowers which open to-day, are gone, or do not produce honey, to-morrow. Thus, those of us who may be working every bee and every inch of comb for honey, may be found revolving in our minds, on retiring at night, and during our short waking moments, and almost dreaming, even, while we sleep, of the possibilities of to-morrow.

In the following list of honey-plants the seasons must be considered, as when spring opens early, the weather favorable, both pollen and honey will be gathered earlier, more abundant, and of better quality; while in the late, cold and wet springs, there will be little of either collected, and that of inferior quality; making swarming later, and at a time when we can little afford the division.

Red elm (*Ulmus*) furnishes an abundance of pollen, and of good quality, and commences to bloom early in January, with a succession of blooms for about a month. Slippery elm blooms the last of February, furnishing rich pollen for about two weeks.

Wild plum (*Prunus*) is next to red elm, commencing early in February, about the time the elm ceases; with a succession of about 15 days, furnishes both honey and pollen. The honey, though, of inferior quality, is eagerly sought by the bees, new honey giving, as it were, new life and vigor to whole colony.

Peach and pear commence to blossom about the first of March, giving a succession of about 20 days, connecting with the apple, which gives a succession of from 10 to 20 days, owing to the varieties. Fruit trees, generally, yield a fair quality of honey and pollen, the former being sometimes somewhat bitter.

Judas tree or red-bud (*cercis*) blooms from the first of March to the last of the month, furnishing principally honey, which is of good quality. Early swarms are frequently thrown off from the abundance of this harvest.

Black haw (*Viburnum prurifolium*). This shrub or small tree blooms about March 20th, with a succession of blossoms for a month, and some times longer. It yields honey and pollen.

Ratan vine (smilax) blooms from April 10th to the last of the month; furnishing an inexhaustible quantity, and a very fair quality, of honey. In localities where this vine abounds, our spring yield is from it, and our main swarming is thrown off from the abundance of this crop.

Black locust and honey locust (*robinia*) flower in March, commencing about the midddle of the month, and giving a succession of flowers for rather more than 20 days; furnishing both honey and pollen of excellent quality.

Pepperwood, angelica tree (*aralia spinosa*, Linn) furnishes both honey and pollen; honey of inferior quality on account of its pungency. It blooms April 20th, with a succession of from 15 to 20 days. It is visited mostly for its pollen, which is abundant.

Poison ivy (*rhus toxicodendron*) furnishes an abundance of pollen and some honey. It blooms in April, throughout the month.

(Continued next week.)

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

Oct. 11, 12, 13.—North American (International), at Chicago, Ills.
Frank Benton, Sec., Washington, D. C.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Read our great offer on page 773.

Strong Colonies for Comb Honey or for Extracted?

Query 876.—If you were going to run one-half of you apiary for extracted honey, would you take the strongest colonies for comb or for extracted honey?—Georgia.

Comb.—C. C. MILLER.

For comb honey.—M. MAHIN.

For extracted honey.—G. M. DOOLITTLE.

The strongest for comb honey.—R. L. TAYLOR.

The strongest for comb honey.—MRS. L. HARRISON.

I would take the strongest for comb honey.—E. FRANCE.

I would take the strongest colonies for comb honey.—J. P. H. BROWN.

I would take the strong colonies for comb honey.—J. H. LARRABEE.

Better make the two divisions equal as to strength.—P. H. ELWOOD.

"I dunno." It must depend upon the demands of our customers.—WILL M. BARNUM.

It is of no importance. The strong colonies will yield the most surplus of either grade.—DADANT & SON.

Usually the strongest, though not necessarily, as the swarming tendency complicates matters.—A. J. COOK.

I would take the strongest colonies for the honey that had the best demand in my home market.—JAS. A. STONE.

Each apiarist should settle this matter to his own satisfaction. I would take the strongest ones for extracting.—J. M. HAMBAUGH.

Only strong colonies produce first-class comb honey. Neither will it pay to extract from anything but strong colonies.—EMERSON T. ABBOTT.

That would depend upon the character of the honey-flow. Usually I would use the strongest colonies for comb honey.—JAMES A. GREEN.

For comb honey, as you may extract from a one-frame nucleus, but it takes strong colonies to do much at storing section honey.—MRS. JENNIE ATCHLEY.

I should run all the strong colonies for comb honey. Weak colonies will often store considerable honey in comb provided for them, that would do nothing at all in sections.—C. H. DIBBERN.

I would run the strongest for extracted, especially when the season was likely to be a short one, for in such a locality one would likely have many unfinished sections at the close of the season.—S. I. FREEBORN.

Neither. I run for comb honey as a rule first, then as I secure what I think will be a fair proportion, I keep uniting unfinished sections, and putting on extracting supers. This gives me comparatively few cull sections at the close of the honey-flow.—R. F. HOLTERMANN.

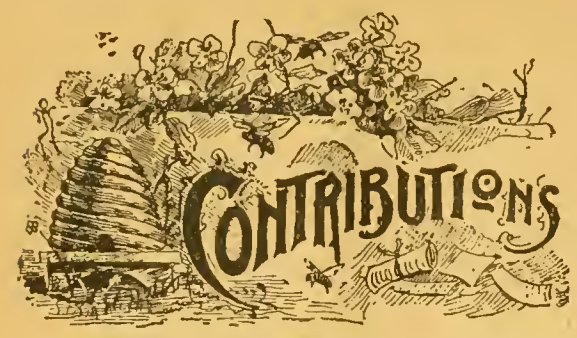
As a rule, I would use the strongest colonies for storing comb honey. If swarms are permitted to issue, I put the swarms at work on comb honey, and the parent colonies on extracting combs. In short, I use my best judgment in working my bees, without being bound to any rule.—G. W. DEMAREE.

I should start my strongest colonies on comb honey, but should take two or three of the weakest, and use them in brood-rearing until all were brought up strong and active. It doesn't pay to run weak colonies, anyhow, except as feeders for the purpose of strengthening fairly strong colonies, or as queen-breeders.—J. E. POND.

That depends. If I wanted no swarms, and did not know any better way to prevent them, I would use the strongest for extracted honey until the swarming-fever was over. If I liked the production of comb honey better, I would use the strong ones for that. If I wanted to make a trial for comparison, I would divide them equally.—EUGENE SECOR.

The World's Fair Women

"Souvenir" is the daintiest and prettiest book issued in connection with the World's Fair. It is by Josephine D. Hill—a noted society lady of the West—and contains superb full-page portraits and sketches of 31 of the World's Fair women and wives of prominent officials connected with the great Fair. It is printed on enameled paper, with half-tone engravings, bound in leatherette. We will send it postpaid for 60 cents, or give it for *two* new subscribers to the BEE JOURNAL at $1.00 each.



Do Bee-Keepers Need an Experimental Station?

Written for the Illinois State Bee-Convention

BY DR. C. C. MILLER.

Many thousands of dollars are annually spent in agricultural experiments, the money therefor being taken from public funds. To prove the wisdom of this, needs no very extended argument. Only by actual experiment can a farmer ascertain many things necessary for the profitable prosecution of his calling. If in each township one farmer should make experiments for all the rest, the cost would thereby be greatly reduced; and if a single set of men at one place, having all the requisite appliances, with the power to command the most favorable surroundings, make the experiments for all the farmers in the State, then the cost is reduced to a minimum *per capita*.

Perhaps, however, the simple fact that in the different States these experiment stations are continued year after year, funds being freely voted for such purpose, is the strongest proof of the wisdom and economy of such outlay.

It is a notorious fact that with very few exceptions the interests of bee-keeping are utterly ignored in all the experimental stations. In our own great State of Illinois, I do not know that a single dollar of public money has ever been spent in apicultural experiments.

The utter neglect of this branch of agriculture can only be justified, if it can be justified at all, on one of two grounds. First, on the ground that the products of bee-keeping are too insignificant to warrant an outlay for experiments. Let us look at this.

Suppose that throughout the 55,000 square miles of the State all the various vocations are nicely adjusted, so that all are full, just the right number of farmers, merchants, blacksmiths, etc., for the highest welfare of the State, only there are are no bee-keepers. Now suppose a bee-keeper be dropped on each 10 square miles of territory with 100 colonies of bees. Then suppose an average crop of 50 pounds per colony, at an average price of 12½ cents per pound. The 5,500 bee-keepers would produce 27½ million pounds of honey, worth in round numbers $3,500,000. Is that amount of clean-cut addition to the total resources of the State not worth considering?

The census of 1880 shows the potato crop of that year in the State of Illinois to be 10,365,707 bushels. At 25 cents per bushel, the value is $2.591,427. Our estimated honey crop is worth about a third more than this. Of buckwheat there were raised 178,859 bushels. At 75 cents per bushel, $134,143—not one-twenty-fifth the value of our estimated honey crop. Were there no experiments on behalf of potatoes and buckwheat? Of cheese, in 1880, Illinois produced 1,035,069 pounds. Figured at the same price as honey, that makes $129,384. Multiply by 26, and it does not come up to honey. Do the cheese-makers have no attention at the experimental station?

Add together potatoes, buckwheat and cheese, and you must increase the combined value by half a million dollars to make it equal the honey. In view of the outlay made, and very properly made, for experiments relating to the three articles mentioned, it can hardly be said that the products of bee-keeping are too insignificant to warrant any outlay for experiments.

If it be objected that the products mentioned—potatoes, etc.—are the actual products of a year, while the amount of honey mentioned is only a possible product, please remember that experiments are made on the basis of possibilities, with the view of something different from what has been.

Or, it may be said, "If possibilities are to be figured on, then estimate potatoes not by the actual but the possible, and the crop will assume one hundred times its present importance, for 100 times the number of bushels *might* be raised." Please go back to our supposition, and that was that all the vocations were nicely adjusted so as to secure the greatest good to the greatest number, and in that case there will be just the right number of potatoes raised for the general good. If you increase the number of potatoes raised, it must be at the expense of some other crop, the additional potatoes raised will take the ground otherwise occupied with corn or something else. So there will only be a

change of products. and as we have supposed a perfect adjustment, any disarrangement of this adjustment will make a decrease instead of an increase of wealth. But in the case of the honey, it will be quite different. An increase in the honey crop will not mean a decrease in any other crop, but as before said, will be a clean-cut addition to the total resources. Indeed, it will be more than the addition of the honey crop, for according to good authorities, honey is only a by-product of the bee, its chief use being the fertilization of flowers. The value of the beeswax produced is also an item worth considering.

It seems, then, pretty clear that the neglect of the bee-keeping interests does not arise from the fact that the products are too insignificant to warrant any outlay for experiments.

The second ground on which the neglect might seem to be justified, is the fact, if it be a fact, that everything pertaining to bee-keeping is already so fully understood that there is no room for experiment. The very suggestion of such a thing will bring a smile to the lips of any practical bee-keeper. If there is any set of men that are exceptionally noted to be always on the strain in the investigation of some unsettled point, lying awake nights over some unfinished problem, losing every year considerable parts of the crop in seeking some better way, surely they may be found among bee-keepers. It is idle to pursue further such a thought.

What, then, is the reason that so far nearly all that has been done has been a matter entirely of private enterprise? Is it not because those who have in charge such matters have not been fully awake to the importance to the public interest of bee-keeping, and that bee-keepers have been too modest to assert their claims?

In view, then, of the importance of an industry that adds to the general wealth in a double way without detracting from anything else, and in view of the fact that bee-keepers are largely engaged everywhere in experiments that could be more economically and more satisfactorily carried out at a place fully equipped for the purpose, there seems only one answer to the question whether bee-keepers need an experiment station.

As to the details of carrying out anything of the kind, I will make no suggestion except the single one, that whoever is at the head of such an experimental station should be a bee-keeper through and through—one in touch with the mass of bee-keepers, knowing their needs and in entire sympathy at all points with the work. To such a one they will look hopefully for light, and cheerfully render all the aid in their power.

Marengo, Ill.

Winter Losses of Bees in Northeastern Iowa.

Written for the American Bee Journal

BY REV. W. P. FAYLOR.

Bees have wintered very poorly in this part of the State. I have recently moved from the central part of the State to Clayton county, and have been through a large part of the State. I think at least 50 per cent. of all the bees in this State have died since last fall, taking the State as a whole.

In the northern counties that I have visited not more than two colonies out of 100 are alive. The best report I found in the east part was 9 colonies wintered out of 18. These were kept in a double-walled bee-house, whose sides are packed with 12 inches of sawdust.

In one village a man wintered 6 colonies of bees in the cellar—these were all in box-hives. He told me he had 60 colonies last summer. The strangest thing of all was, that two colonies in salt-barrels that were left on the summer stands with no protection whatever, are strong and booming now. These stood high up from the ground on platforms resting upon four stakes driven into the ground. One barrel had a crevice about an inch wide, and fully 20 inches long. I could hardly believe that it was possible that a colony of bees could ever survive such a winter as the past in such a house. If bees will winter more safely in large hives high up in the air, it is time bee-keepers were finding it out.

I brought with me two colonies of very yellow Italians, and about 20 empty hives with nice combs, thinking that I could buy bees to fill them up when I got here; but bees cannot be purchased here for love nor money. A blacksmith near the parsonage proposed to go with me to where he was sure I could get all the bees I wanted. Off we went to the home of the "Bee-King," as he is known in the county in which he lives. In a few hours' drive we found ourselves on the banks of Turkey river.

Mr. King had left his bees on the

summer stands (about 100 colonies). He had but 4 colonies alive, and these he declared would yet dwindle and die. All his hives were turned over on their sides, leaving the tops and bottoms exposed to the atmosphere. Although a nice sunny day no bee could be seen stealing honey from these open hives, and some of them were half full of honey. One weak colony living had brood in three combs, and were about out of honey. I tried to make him believe that it would pay to put a few good combs of honey in place of empty ones, but he insisted that if they could not take the honey into the hive when it was all about them, they might fizzle.

He had a good cellar and an extra cave, and left every hive out. He said that for the last five years he had wintered bees out-of-doors successfully, and had given up any special preparation for wintering bees.

It is a very common thing to see a stack of empty bee-hives in a yard in Iowa, and not a live colony in the yard. In one county in the north central part of the State, I found one bee-keeper who had wintered his bees in long, deep troughs, packing eight hives in a box with six inches of chopped straw on each side, and about 12 inches on top. He simply bored a two-inch auger-hole for the entrance of each colony, corresponding to the entrance of the hives. This man lost one colony in springing, caused, he said, by a large mouse going into one of the auger-holes and entering into the hives.

I believe for wintering, springing and building up in the spring, no method is so nearly perfect as the trough-packing method.

Colesburgh, Iowa, May 30, 1893.

Sugar Syrup vs. Honey for Wintering Bees.

Written for the American Bee Journal

BY M. W. TUBBS.

After three years of unprecedented failure in both increase and surplus, the silver lining of the dark cloud began to be discernible, and soon came forth in all its radiance and splendor. After a decrease in the preceding years of 48 colonies, the spring of 1892 found me with only 17, in a light and unpromising condition; however, spring feeding and favorable turn of wind is all that saved them from complete annihilation, and brought them up to a fair standard of excellence for the honey harvest.

In the continuing processes of time, Nature's laboratory of pollen and nectar began to unfold, each in its turn producing abundantly, and before the snow had entirely disappeared, the bees were briskly gathering pollen, which was soon followed by an encouraging flow of nectar from the pussy-willow.

The season continued favorable, and after the harvest was gathered we found, by comparing our stock with the unit of measure, the pound, we had obtained 1,450 pounds of nice comb and extracted honey, an average of a trifle over 85 pounds per colony, spring count; besides increasing to 33 colonies for winter, which were in fine condition numerically, but not "financially," as their stores had been reduced by the extractor to the minimum in view of feeding sugar syrup for wintering, leaving only 3 colonies with natural stores; the result of which I am about to report.

By a careful estimate of the requirements of each colony, averaging 20 pounds of sugar syrup, we began feeding for winter the first of September, which was completed the forepart of October, and the mats, etc., put on preparatory for wintering, which was done on the summer stands in chaff and Chautauqua hives. Their last flight occurred on Nov. 24, 1892, and they were not out again until March 8, 1893—104 days; the intervening time going on record as the coldest winter in 25 years. The mercury reached as low as 24° below zero.

Had it not been for the "Old Reliable"—the AMERICAN BEE JOURNAL—we would have given up in despair of successfully wintering the bees without a flight, on sugar syrup; more successful, however, than with honey. But just as the gloom of another week's confinement would begin to settle upon us, our *welcome guest* would drop in, bringing consolation from those who were older in the experience of sugar-syrup wintering.

However, when at last the flight did come on the 8th of March, and bees from every hive sallied forth in the open air, enjoying the little while of sunshine, and shaking off the tediousness of their long confinement, our surprise was kindled to amazement, at the small amount of excrement which was ejected on the snow, much less than is often seen after a much shorter confinement on natural stores. There was no show of diarrhea from any of those fed on sugar syrup, while the three that were

wintered on honey were badly affected, spotting up hives, combs and snow more than all the others together.

Experience is said to be a dear school, but when theory is practically applied, and good results obtained, it is as good proof as can be had of the merit or demerit of the untested. For us it has proven that sugar syrup is the best for wintering bees, especially on the summer stands. It is surely the cheapest, and does not infringe on the rights of the honey market or consumer, as does feeding sugar for an increase of surplus, which should not be contemplated.

As a matter of safety, economy and convenience, we henceforth and hereafter will winter our bees on sugar syrup, made of pure granulated sugar and water, in preference to the finest honey.

Portville, N. Y.

How Michigan Secured its Experimental Apiary.

Written for the Bee-Keepers' Review

BY W. Z. HUTCHINSON.

At several of the bee-conventions that I have attended there have been resolutions passed asking that the general government, or that the State Experiment Stations, do some experimental work in the bee-keeping line. At one or two of them a committee was appointed to try and secure the desired action. If this is all that is done, no experimental apiary will be established.

At the last meeting of the Michigan State Bee-Keepers' Association this subject was discussed, and a committee appointed to try and induce the State Board of Agriculture to secure the services of a competent bee-keeper for managing the State apiary in an experimental way, for, be it known, Michigan was already the possessor of an apiary. The Hon. R. L. Taylor, the Hon. Geo. E. Hilton and myself were the members of the committee. As chairman of the committee, I addressed a letter to each member of the State Board of Agriculture.

I called their attention to the fact that of the $15,000 received by each State from the general government for experimental work, almost nothing was devoted to apiarian research; I pointed out the fact that each State ought to conduct experiments in the lines that would benefit the industries of *that* State. Experiments in cotton-growing would not be appropriate in Michigan. Experiments in bee-keeping would. Not only is bee-keeping important for the wax and honey produced, but for its benefit to the fruit-grower and horticulturist. Without bees, these two industries would languish.

I then called attention to the different experiments that ought to be made, and in the name of the bee-keepers of Michigan, I most respectfully, but most earnestly, urged that they give the matter an early consideration.

I then had circulars printed, showing what I had done, and urging the recipient to write to the members of the Board, and ask that bee-keeping be recognized by the appointment of any apiarist for doing experimental work. These were sent to about 100 of the most prominent bee-keepers of the State. I also wrote about 20 personal letters, urging these friends to write. Mr. Hilton also wrote and sent out circulars. All this was done shortly before a Board meeting, and when the Board met, Mr. Taylor and myself went before it, and urged our case. The matter was urged almost solely upon the ground that bees were a benefit to other pursuits; that the honey and wax were of less consequence than the benefits derived from the bees by *other* pursuits. Mr. Taylor said that bee-keeping was looked upon by many as a small business, as one beneath the dignity of a man—a bee-keeper was looked upon as a sort of a "hen-wife." If the State would recognize and encourage it, it would add dignity to the pursuit, and lead to more extensive keeping of bees.

The Board then wanted to know what were the experiments that bee-keeping so much needed. Said one member: "The sheep and dairy men, and those from other industries, come before us just as you have done, and say, 'Do something for us,' and when we ask what, they are at a loss to answer. Tell us what experiments you want done, and we will try and see that a man is found to do the work."

I then went to work and prepared a list of perhaps a dozen different experiments that I considered the most important, and, as none of the members were practical bee-keepers, I went into details and explained each point, so that the importance of the work could be understood even by one not a bee-keeper.

It was then asked if a bee-keeper could not do this work cheaper in his own apiary, than he could come to the college and do the work. I replied that he could. I thought he could do the

work for half the money that he would need if he were obliged to move to Lansing and pay rent. The next question was, "How much pay ought a man to receive for conducting experiments in his own apiary?" I thought $500 a year a fair compensation.

To make a long story short, $500 a year has been appropriated for paying a man to conduct experiments in apiculture, and the Hon. R. L. Taylor, of Lapeer, has been appointed to do the work. He has had experience, he is careful, methodical and conscientious, and it is no disparagement to other bee-keepers to say that probably no better man could have been chosen for the work.

Bee-keepers will be invited to say what experiments they would like conducted, or how they would like particular experiments conducted, to criticise, commend and encourage. Mr. Taylor would be thankful for suggestions of any kind by letter at once, touching work that can be done to advantage only during the swarming season.

I have been explicit as to the methods employed in securing the appropriation, because I thought it might help bee-keepers in other States in their efforts to secure recognition at the hands of the State Board. Somebody has got to go ahead and do some hard, earnest work, and there will be some expenses for printing, postage, car-fare and hotel bills in going to visit the Board; but these expenses ought to be borne by the bee-keepers of the State—perhaps be paid out of the funds of the Association. There is *no use* in trying to avoid this expense; for, as one of the board wrote me after the meeting was over, "All of the talk and writing would have amounted to nothing, had not you and Mr. Taylor come before us in the proper spirit; then the thing went through like a charm, without a dissenting voice, and with the most hearty good feeling."

Flint, Mich.

Winter Losses and Other Bee-Keeping Matters.

Written for the American Bee Journal

BY THOS. JOHNSON.

Spring rains are continuing, and if it doesn't stop soon, we will have some spring dwindling in these parts. Loss of bees here is at least 50 per cent. more than it was last year. As far as I can learn, the loss will be about 60 to 75 per cent. in and around Coon Rapids. S. Parker has 2 left out of 30 colonies, and J. Umbaugh, 4 left out of his famous apiary. L. Scott and O. D. Houghton wintered their bees in cellars, and their loss is not more than 10 per cent.

Levering Bros., of Wiota, wrote me that out-door wintering in their locality would be almost a total loss. I was at Guthrie Center a few weeks ago, and they complained of the same result. Four weeks ago I was at Manning, and saw Mr. Lee, who said that he wintered his bees in a repository, and his loss will be small. He said that all bees left out by his neighbors were almost a total loss.

The snow preserved the white clover, and the ground is well soaked with the rains, and should we have fair weather for bees to work in June and July, I look for a heavy flow of nectar from summer flowers.

On page 536, Mr. A. Bartz, in mixing the two nuclei together, excited the bees, and the Italians went at it by sight, and not be scent, and fought as long as they saw a black bee.

Some years ago I had a nucleus of Italians, and went to a colony of blacks where I had introduced a queen, and the Italians just beginning to hatch I took three combs from them and shook the bees off. In doing so I left on a few black bees. I put them in the nucleus, and went on with my work, and in less than an hour I passed the hive and saw the ground covered with dead bees.

On opening the hive I saw that the Italians had cleaned out every black bee. In their excitement they couldn't have been looking for queens, but for black bees, and by the time they had finished their job they would naturally settle down to peaceable business. Nature teaches them that they cannot subsist long without a mother, and they just took her as they had no access to their Italian mother, and likely as not they kept up killing the black bees for several days as soon as they were hatched.

On page 370, Dr. Miller, on the "sting-trowel theory," puts it at Mr. Clarke in a pretty positive way. Some years ago when Clarke was a boy, while out duck-hunting, he heard a splashing in the water. He crept up and discovered a lot of beavers working, preparing for the winter, cutting down trees, placing them in the water, and putting on the last finishing touches with their tails. Since then Mr. Clarke has been studying bee-ology, knowing that bees had "tails," for he had felt one stop against his ear once. All at

once his boyhood days came back to him, and he sat down and wrote the article the Doctor tells about.

On page 492 Mr. D. L. Nelson speaks of queens laying in queen-cells, etc. Has Mr. Nelson any evidence of queens laying in cells prepared by workers to rear queens? Bee-keepers of any experience know that a queen is death to any queen-cell that has a larva, sealed or otherwise, unless guarded.

Sometimes bees will swarm without any preparation, workers start queens over worker larvæ, and also when the queens suddenly die. For proof of the above fact, if one will watch a colony preparing for natural swarming after they complete the cell and prepare it for the egg, they put a thin coating in the bottom resembling honey, then in a short time you will find the egg deposited—Mr. Nelson says by the queen, I say by the bees. Now, who is correct? After bee-keepers experiment on that point, I think they will agree with me.

Coon Rapids, Iowa, May 1, 1893.

Swarms Occupying Empty Hives Put Up in Trees.

Written for the American Bee Journal

BY C. H. ECKLES.

I would like to give a little of my experience on the matter of bees occupying empty hives. Having often seen the statement that bees would come to empty hives put in trees, I determined to try the experiment. In May, 1892, I had 11 empty hives that I had no use for, also a number of old empty combs. I took these hives, putting in five combs in each, a space of two inches being left between each to prevent the moths working.

Ten of the hives were put in trees, most of them fastened to the lower branches of pines and elms. The bees soon found them, and before night of the day the hives were placed in the trees, two of them contained large swarms, and during the next few weeks four more of the hives were filled with fairly good swarms.

In each case it was noticed several hours before the swarm arrived, that the hive was occupied by a few bees, perhaps a large handful, that were working industriously carrying out the dirt from the combs, and cleaning the hive in general. By the time the swarm arrived, the hive would be all prepared, and the scouts be hanging in a cluster on one of the combs. In each case the swarm immediately went to work, and all stored sufficient honey to keep them over winter.

Three of the other hives put up were taken possession of by a few bees that cleaned out the dirt from the combs as those did where the swarms came. These few bees usually stayed about the hive for two weeks or more, being very cross to any one who molested them. The supposition is that these were scouting parties sent out by the swarm which, however, was captured and hived before reaching its destination.

These all, as far as were known, came from neighbors' apiaries. We had at that time 20 colonies of hybrids, which were near the trees containing the hives. The swarms which occupied the hives were all blacks, and thus we were able to distinguish them from our hybrids.

One reason why hives are filled so readily by escaping swarms, is the lack of hollow trees in which they could find a home. Here in the center of Iowa are but very few trees that would afford a lodging place for a swarm, and consequently they must find homes in the sides of houses, or in empty hives.

Ames, Iowa.

Samantha at Saratoga.—One of the richest books in genuine humor that has been published for many years, in the English language, is "Samantha at Saratoga," by Miss Marietta Holley. Rev. Dr. Newman, the Bishop of the Methodist Episcopal Church, says of this book:

"I commend 'Samantha at Saratoga' as an antidote for the blues, a cure-all for any kind of imaginary woe, a recreation from mental taxation, a provocation for wholesome laughter, and an inspiration to godliness. It is the bitterest satire sugar-coated with the sweetness of exhilarating fun; it is irony laughing at fashionable folly; it is exalted wit with the scalpel in one hand and the Balm of Gilead in the other. Her personality is intense, her genius immense, her art perfect. She stands alone in her chosen sphere without a rival."

Read our great offer of this book free, on page 773 of this copy of the BEE JOURNAL.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Booming on White Clover.

Bees are just booming on white clover. I never saw such a bloom in all directions, of white clover, as at the present time, and it seems as if every blossom is filled with nectar. Basswood will be filled with bloom in this locality. CHAUNCEY REYNOLDS.

Fremont, Ohio, June 8, 1893.

Ground Bark for Winter Packing.

I have been reading about packing, or filling, for vacant space in building bee-houses, also hives for wintering out-doors and spring packing. The articles proposed and used are many, even to the most costly and extravagant outlay of money in filling in with cork ground up fine.

First, we do not pack in our climate, our only packing needed is plenty of honey; but I want to advance a thought on packing bee-hives, and filling or packing for space between walls of bee-houses, where bees are wintered above ground, and I think it is according to Nature's own way, provided the inside space is not too large. Well, the article to be used is ground bark, as it is prepared by the tanner for making ooze for tanning hides into leather. Bark once used by the tanner can be bought cheaply, but it must be dried again, perfectly dry. I could give many reasons for its use. I want to hear from those that must prepare for winter, and use out-door repositories for bees.

GEO. N. PHILLIPSON.

Merrivale, Tex.

The Season in California.

Some bee-keepers have extracted a little green honey to catch the early prices.

As this is my first season in California, I can only guess at what the future will be. White sage is beginning to "give down" slowly now, but wild alfalfa is holding out well. About half of the colonies seem to prefer sage, and the other half alfalfa, which makes a poorer quality of honey than clear sage, and better than all alfalfa, and I have extracted some 20 or 30 pounds to the hive to make room for something better.

It was impossible to get any surplus from orange bloom. It all went into brood. I think that orange bloom is a swindle. There is about enough to secure fertilization, and that is all.

Fruit-bloom here does not yield as in Iowa, but in Iowa it is nearly always cold and cloudy. Horehound also gets mixed in with the fruit-bloom honey, and has remained to make the earliest sage bitter. I believe the horehound is what causes bee-paralysis here. It affects most of the bees more like St. Vitus' dance than paralysis, because they shake and shiver, and cannot stand still. It uses a colony up as far as surplus is concerned. C. W. DAYTON.

Pasadena, Calif., May 27, 1893.

Five-Banded Bees—White Clover.

The past winter has been the hardest one for this locality that we have had for years. My bees came through with a loss of about 15 per cent., wintered out-doors, with outside winter cases. My neighbors, who are principally box-hive advocates, have lost heavily.

My bees now are fairly booming on fruit-bloom, and contrary to the experience of some of the "veterans," the five-banded bees are far ahead of the darker ones, the hybrids being behind all, as far as building up is concerned. But this does not prove definitely that they are superior to the darker Italians, so far as actual value is concerned. Their honey-gathering qualities have to be tested yet, and if those qualities prove to be equal to their prolificness, they are certainly the more valuable kind, that is, for me. They will certainly have a fair chance to show themselves, for white clover is very plentiful, and is looking well. JAKE EVERMAN.

North Middletown, Ky., April 28, 1893.

Granulation of Honey.

Let me say a word in the matter of the granulation of honey. I speak from the experience of having kept bees in all parts of the globe.

Almost any kind of honey will granulate by cold, but not quite every kind. In Malta, very early honey from *Trifolium incarnatum* and orange blossom does not; it is very light colored, almost transparent. Fruit-bloom and wild thyme honey is much darker, and does granulate very easily.

In Honolulu, very little honey is gathered that does not do so, but I failed to find out what it was gathered from. The main source of supply there is cocoanut and other palms, and algaroba; even in the sections it granulates almost at once, and there isn't any cold to speak of there.

In this I differ from J. H. Hill (see page 493). Granulation is due not only to "weather, rain, atmosphere," etc., but also to the nature of the blossom the honey is gathered from, and capped and uncapped matters little. I have some sections of honey from California, and although they have been exposed to a good deal of cold they are still liquid. MALTA

Tight-End Frames and Moths.

In 1890 I bought 2 colonies of bees in portico hives and hanging frames. The next spring I bought 5 more colonies in the same make of hives, and in 1890 and 1891 I made hives for what swarms that came out, with hanging, loose-end frames, just the same as the hives I bought with the bees, but I saw the moths were troubling my bees in behind the end-bars, so I decided that tight-end frames would give the moth less chance for nesting, and all of my hives since 1891 I have made 12 inches wide inside by 18 long, and 9½ deep, giving the hive about 2,600 cubic inches.

In 1892 I lost every old colony, and all the new colonies that I put into the loose-end frame hives, by the moth, and out of 35 tight-end frame hives I have never seen a sign of a moth, and the tight and loose end frame hives were standing in the same yard within 2 feet of each other. On April 24th I took my bees back into the cellar, and on April 26th it snowed hard again. On the 27th there was about 16 inches of beautiful white snow, and I hauled sawlogs to the mill. It was good sleighing.

Osakis, Minn. MARK D. JUDKINS.

First Swarm on June 12th.

I had my first swarm of bees yesterday, June 12th. It was a pure Carniolan. I have 150 colonies in all. G. G. BALDWIN.

Port Huron, Mich., June 13, 1893.

Short Honey-Flow Expected.

Bees did not do very well in this locality last year. From 8 colonies we only took 150 pounds of comb honey.

Bees wintered all right last winter, but this spring was very cold and trying. Out of 12 colonies we lost 2 from starvation.

I think our honey-flow will be short this year. Bees could work on fruit-bloom but a day or two, as the weather was so cold. I will try to report later on in the season as to our honey-flow this year. I like the BEE JOURNAL. F. N. BLANK.

Prairie Home, Mo., May 31, 1893.

"Rough on Rats" for Killing Ants.

On page 656 is a request for something that will exterminate ants. As I have had some experience with them, I venture to tell how I dispose of them.

Mix a small quantity of "Rough on Rats" in some sweetened water or honey, and place it where the ants can get it, but where the bees will not find it. I have never known this to fail to exterminate them.

This spring I discovered that the ants were working in one of my hives, and on making an examination I found they had taken possession of the top of the hive, had covered the quilt and filled every crack with eggs. I had no "Rough on Rats" on hand, but as something must be done, I burned that quilt and destroyed what I could; then taking a piece of common school crayon, I drew a heavy line of chalk entirely around the hive. The ants would come up to that line by the hundred, but not one went over. I examined the hive the next day, but there was not an ant to be seen, nor has it been troubled since.

I wish that all bee-keepers who are bothered with them would try these two remedies together, and report their success in the BEE JOURNAL. I shall watch for a report of Mr. Lovesy's experience. Be sure that there are no breaks in the chalk-line, and that your bees cannot get at the poison. D. L. MCKEAN.

Cobham, Pa.

Poor Honey Caused the Loss.

Bees wintered poorly in this locality, most bee-keepers losing from 50 to 75 per cent. on account of poor honey, and not being capped, as the only honey we did get was in the fall, which soured and gave the bees the diarrhea, and many died either before they came out of the cellar or soon after. My bee-house was dry, and I lost only 2 out of 20 colonies. The 18 are doing nicely now. C. F. LANG.

La Crosse, Wis., June 7, 1893.

Apple-Bloom and Locust Honey.

My 18 colonies of bees, on the summer stands, wintered well, and have gathered about 20 pounds per colony from apple-bloom and locust, and are now waiting for the white clover, which is looking finely, and promises to yield abundantly. Bees in box-hives, in this locality, nearly all died, and perhaps ¾ of those in movable frames, where they were not properly attended to in the fall.

The AMERICAN BEE JOURNAL is always a welcome guest, and we could hardly keep bees without it. ROBT. B. WOODWARD.

Somerset, O., June 9, 1893.

Terrible Storm in Missouri.

On the evening of Thursday, May 25th, our section of country was visited by a terrible wind and hail storm. Many houses and barns were scattered to the four winds of heaven, and hail as large as walnuts fell in torrents in places to a depth of 6 inches. Although the home bee-yard was ¼ mile south of the hardest of the storm, the hives were all turned over, and some of them entirely emptied of all combs and bees. My damage is very heavy; many queens were lost, most of the old bees were shaken out and drowned, and pounded into the earth by the hail. Should a clover harvest come my way, I would be badly left.

Mr. P. P. Collier, who lives at Rush Hill, and had an apiary of some 70 or 80 colonies, I understand suffered almost if not quite a total loss of bees, brood and combs. This has been a very wet spring here, bees and clover are both away behind time, and I

can't tell how it will be for those that have bees that are in shape for the harvest.

I have 35 colonies 7 miles north, that are all right, and are working on the clover some now. I had 65 colonies at home.

BYRON IIAMS.

Worcester, Mo., June 5, 1893.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, June 17th, 1893:

CHICAGO, ILL.—There is not much movement in comb honey. Prices range at from 12@16 and 17c., all good grades bringing 15@17c. A few cases of the new crop have arrived and brought the top prices. Beeswax is very steady at about 25c. Extracted honey is moving very slowly at from 6@8c.

R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.

Beeswax—20@23c. C-M. C. C.

CINCINNATI, O.—A short supply of extracted honey is the cause of a slow demand. It forbids an effort on our part to sell. It brings 6@8c. There is no choice comb honey on our market, and prices are nominal at 12@16c., in a small way.

Beeswax—Demand good, at 22@25c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—New crop of extracted is arriving freely. Market is quiet and demand limited. Fancy grades sell at from 7@8c.; common to fair, at from 60@70c., as to body, color and flavor. Beeswax, 26@27c.

H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.

Beeswax—None on hand. B. & R.

ALBANY, N. Y. — Honey market is very quiet now, as between seasons. Beeswax—at 30@32c. for good color. H. R. W.

MINNEAPOLIS, MINN.—There is quite an active demand this week for honey, especially white comb honey in 1-lb. sections. Dark is very slow sale. Stock on hand in this market is very light. Receipts have not been enough to supply trade during the past 10 days. Fancy white comb honey, 18@20c.; No. 1 white, 17c.; fancy amber, 16c.; No. 1 amber, 14c.; fancy dark, 12c.; No. 1 dark, 10c. Extracted California 60-lb. kegs, 9c. Beeswax, unsalable. J. A. S. & Co.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club.*
The American Bee Journal	$1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Review	2 00	1 75
The Apiculturist	1 75	1 65
American Bee-Keeper	1 50	1 40
Canadian Bee Journal	2 00	1 75
Nebraska Bee-Keeper	1 50	1 35
The 7 above-named papers	5 75	5 00
and Langstroth Revised (Dadant)	2 40	2 25
Cook's Manual of the Apiary	2 00	1 75
Doolittle on Queen-Rearing	2 00	1 65
Bees and Honey (Newman)	2 00	1 65
Advanced Bee-Culture	1 50	1 35
Dzierzon's Bee-Book (cloth)	2 25	2 00
Root's A B C of Bee-Culture	2 25	2 10
A Year Among the Bees	1 50	1 35
Convention Hand-Book	1 25	1 15
Illustrated Home Journal	1 50	1 35

"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.70.

"The Winter Problem in Bee-Keeping" is the title of a splendid pamphlet by Mr. G. R. Pierce, of Iowa, a bee-keeper of 26 years' experience. It is 6x9 inches in size, has 76 pages and is a clear exposition of the conditions essential to success in the winter and spring management of the apiary. Price, postpaid, 50 cents; or given as a premium for getting one new subscriber to the BEE JOURNAL for a year. Clubbed with the BEE JOURNAL one year for $1.30. Send to us for a copy.

Your Neighbor Bee-Keeper —have you asked *him* or *her* to subscribe for the BEE JOURNAL? Only $1.00 will pay for it for a whole year. And, besides, *you* can have Newman's book on "Bees and Honey" as a premium, for sending us two new subscribers. Don't neglect your neighbor! See page 771.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & CO., 14 & 16 Hennepin Avenue.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Convention Notices.

INTERNATIONAL.—The North American Bee-Keepers' Association will hold its 24th annual convention on Oct. 11, 12 and 13, 1893, in Chicago, Ills. Not only is every bee-keeper in America, whether a member of the society or not, invited to be present, but a special invitation is extended to friends of apiculture it every foreign land, FRANK BENTON, Sec.
Washington, D. C.

Almost Every Bee-Book that is now published we mention on the third page of this issue of the BEE JOURNAL. Look over the list and select what you want. For every new yearly subscriber that you secure for us at $1.00, we will allow you 25 cents, to apply on the purchase of any book we have for sale. This is a rare chance to get some valuable apicultural reading-matter, and at the same time aid in spreading helpful apiarian knowledge among your friends.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line**, for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

TO EXCHANGE — High Grade Safety Bicycle, for Honey or Wax.
17Atf J. A. GREEN, Ottawa, Ill.

Have You Read that wonderful book Premium offer on page 773?

Advertisements.

For Sale, Ten Strong Colonies

Of Italian and Carniolan Bees, in good 10-frame portico Hives. Price, $4.00 per colony. For further information, address,
JOSEPH EIBEL,
711 E. Orange St., LANCASTER, PA.
25A3t WHEN ANSWERING MENTION THIS JOURNAL.

Golden Queens Solid Yellow, $1.00 each. Yellow to the tip, 75c. Pure Young Tested, 75c. **Bees** 40 cts. per frame, 8x8 inches; 10 frames 35 cts. each. **100 lbs. Thin Foundation,** $35. **F. C. MORROW,**
24Atf WALLACEBURG, ARK.
Mention the American Bee Journal.

LEATHER = COLORED
—HONEY-QUEENS—

FROM Imported Mother, warranted purely mated, after June 10th, at $1.00 each; six at one time, $5.00. Untested Queens, 75 cents each. Address, **C. A. BUNCH,**
25Atf NYE, Marshall Co., IND.

Root's Goods at Root's Prices.

WE have received another car of Bee-Keepers' Supplies from A. I. Root, and they are A No. 1. The Hives are made of the best lumber I ever saw used for that purpose—sound and almost clear. The dovetails are cut smooth and fit exactly when nailed. You cannot buy any better hives. We have Cowan Extractors, Crane Smokers, Comb Foundation and nearly everything used in the apiary.
Send for sample Hive. We guarantee every Hive we send out to be as good as the sample.
H. G. ACKLIN,
1024 Miss. St., ST. PAUL, MINN.
Northwestern Agent for A. I. Root's Bee-Keepers' Supplies.
Mention the American Bee Journal.

Are YOU Coming to the ✻ ✻ WORLD'S FAIR?

If so, you should secure **Accommodation in advance** of coming to Chicago

Young Ladies Specially Cared For

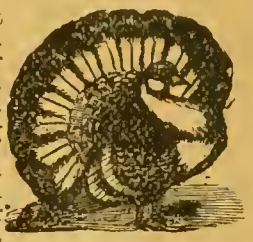
You are invited to correspond **at once** with
MRS. J. P. COOKENBACH,
987 Wilcox Ave., CHICAGO, ILL.,
Who will be pleased to help all desiring to have a comfortable and pleasant place to stay while visiting the World's Fair, and at very **reasonable rates.**
REFERENCE: By permission, **"American Bee Journal."**
Mention the American Bee Journal.

Fanny Field's Poultry Books Here is Your Chance

TAKE YOUR CHOICE OF TWO

Of the following 40-page booklets. We offer two as a Premium for sending us $1.00 for **One New Subscriber** to the BEE JOURNAL for one year.

Two of them for sending us One New Subscriber, or we will mail the 3 for 50 cts.



POULTRY FOR MARKET and Poultry for Profit.—It is written for those wishing to make poultry profitable. **Contents**—Clears $4.49 on each fowl. Cost of keeping adult fowls per year. Cost of raising chicks to 6 mo. old. Spring management. 12,480 eggs from 100 hens a year. Feeding for eggs in winter. Hatching-houses. Cleanliness. No sickness among the fowls. A word to farmers' wives, sons, daughters, and others interested in poultry. 60-acre poultry farm that yields a clear profit of $1,500 a year. 81 chicks out of 100 eggs with incubator. Raising broilers. Food for chicks. Turkey raising. Keeping eggs. Cause of death of young turkeys. Keeping poultry on a village lot. Feed in winter. Mechanic's wife clears $300 annually on broilers. Artificial raising of chicks. Incubators. Capons. Caponizing. Tells everything about the poultry business. Sent postpaid, for **25 cents.**

OUR POULTRY DOCTOR, or Health in the Poultry Yard and How to Cure Sick Fowls.—It tells how to cure—Chicken Cholera, Roup, Lice, Gapes, Leg Weakness, Scaly Legs, Chills, Cramp, Cough, Canker, Diarrhea, Crop Bound, Sore Eyes, Break Down, Soft-Shell Eggs, Bumble Foot, Chicken-Pox, Apoplexy, White Comb, Frost-Bites, Moulting; Breaking Sitting Hens, Feather-Eating, Egg-Eating; Chiggers, Diseases of Turkeys and Ducks. Recipe for Douglas Mixture. Everything about Poultry Diseases and their Cure. Price, **30 cents.**

TURKEYS FOR MARKET and Turkeys for Profit.—The author reared in one year 150 Turkeys, and did the work for a family of 5, netting her $300. No farming pays like Turkeys. **Contents**—Age of breeding stock, about the Gobbler. Best and most profitable breeds. Setting the eggs. Care while hatching. Profit per head. Care until fully feathered. Food for the young. Save the feathers, they bring good prices. Number of hens to a Gobbler. Narragansett Turkeys. White Turkeys. Bronze Turkeys. Common Turkeys. To restore chilled Turkeys. Diseases of Turkeys. Leg weakness. Killing and dressing. Mark your Turkeys. Marketing. Capital and number to begin with. All about Turkey-Raising. Price, **25 cents.**

GEORGE W. YORK & CO.,

\- - - CHICAGO, ILLINOIS.

FRUIT-GROWERS' LIBRARY FOR $1.00.

The following 5 Books (price, $1.25) will be sent postpaid for only $1.00, or we will give "Rural Life" with your choice of any one of the other four (making two books) for sending us One New Subscriber to the AMERICAN BEE JOURNAL for a year. Read the descriptions.

HOW WE MADE THE OLD FARM PAY, is the title of a book (64 pages) by Chas. A. Green, giving his personal experience on a fruit farm which he made yield a generous fortune. It is bound in elegant lithographed cover, printed on fine paper and beautifully illustrated. It gives much practical information in regard to fruit-growing, and also gives the author's experience as a Nurseryman. Price, **25 cents.**

GREEN'S FIVE BOOKS ON FRUIT-CULTURE—Devoted 1st, to Apple and Pear Culture; 2nd, Plum and Cherry Culture, 3rd, Raspberry and Blackberry Culture; 4th, Grape Culture; 5th, Strawberry Culture. It is a book of 129 pages, giving the practical experience of Chas. A. Green in growing all kinds of fruit. It is profusely illustrated and cannot fail to be of interest to every lover of fruit gardens. Price, **25 cents.**

GARDEN AND ORCHARD is the title of a new book by Chas. A Green; 94 pages, illustrated. This is Mr. Green's latest book on fruit culture. It gives full instructions in regard to Thinning and Marketing Fruits; also Pruning, Planting and Cultivating. It contains the latest experience in Spraying, Evaporation and Cold Storage. It has a long chapter on Berry-Growing of all kinds, besides other valuable information, which cannot be found in any other book. Price, **25 cents.**

RURAL LIFE.—Its scope is as broad as its title, and the matter is presented in a concise, "boiled-down" manner, giving the experience of many in few words. Among the subjects treated are these: Economy; Prosperity and Adversity; Character; Health; Remedies; Mistakes of life; Domestic and Household Affairs; Planting and Culture of Vegetables, Planting, Culture, Trimming and Training Vines, Trees and Plants, Bees, Poultry, Live-Stock and Farm Topics, etc., with comprehensive Index. 100 pages. Price, **25 cents.**

HOW TO PROPAGATE AND GROW FRUIT.—This book (72 pages) gives brief instructions in budding, grafting and layering. It also gives almost every method known for the propagation of fruit trees, vines and plants. There are many people who could increase their stock of valuable varieties if they could secure information on this subject. Money can be made by purchasing rare and valuable varieties, and increasing them rapidly by layering, budding or otherwise. This little book by Chas A. Green tells how to do it. Price, **25 cents.**

Address, **GEORGE W. YORK & CO., 56 Fifth Ave., CHICAGO, ILL.**

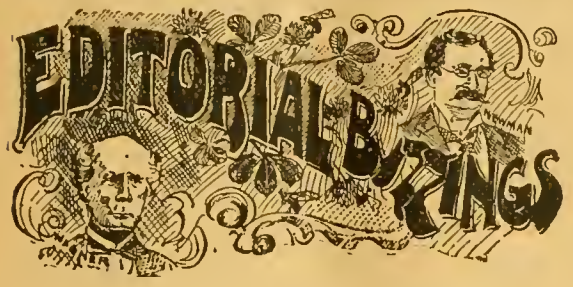
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

GEORGE W. YORK, Editor. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Weekly, $1.00 a Year. Sample Free.

VOL. XXXI. CHICAGO, ILL., JUNE 29, 1893. NO. 26.



Please Don't send to us for bee-supplies, as we do not deal in them, and your order, if sent to us, must necessarily be delayed in filling. Just patronize those supply dealers who advertise in our columns, and you will thus please us most. We shall be glad to furnish you any bee-book and the BEE JOURNAL, but when it comes to supplies—well, we are not "in it."

Volume XXXI is completed with this number of the BEE JOURNAL. Another milestone on the way to higher usefulness and greater excellence in progressive bee-literature is thus attained. In all of its departments in the volume just finished we have endeavored to advance at least a little over the standard already reached in the previous volumes. Whether or not our object has been fully gained can only be answered by those who from week to week have perused its pages.

In the future, as in the past, we shall endeavor to press onward, ever striving to present to our appreciative readers those things which shall most aid them to make the greatest possible success of the keeping of bees.

With gratitude to all for their hearty co-operation; with the earnest hope that this year we may yet have a splendid honey crop; and with an eye single to the highest interest of all deserving bee-keepers the world over, we close the present volume, and turn with feelings of pleasure and encouragement to the fair and unsullied pages of Volume XXXII.

Mr. H. D. Cutting, of Tecumseh, Mich., called at the BEE JOURNAL office on Wednesday, June 21st. He was in Chicago looking after the apiarian exhibit to be made at the World's Fair by the State of Michigan. If any man can get up a creditable display for the small sum of $500, Bro. Cutting is just that man. What a pity that the great State of Michigan couldn't have done better for the horticulturist's best friends—the honey-bees! It shows that bee-keepers have not as yet sufficiently insisted upon the great value bee-culture is to the world. It is high time that each bee-keeper appoint himself a committee of one on education, and then see to it that everybody he meets shall understand something of the value of bees to the farmer, gardener and fruit-grower.

The Foul Brood Cure, as practiced by Mr. Wm. McEvoy, the Foul Brood Inspector for Ontario, Canada, will be given in the BEE JOURNAL for next week. Mr. McEvoy has been unavoidably delayed in preparing it for publication. He is a very busy man, indeed, and those who have so long waited for the description of his method of curing foul brood, will kindly excuse him. The article came just a *little* too late for this issue, or we would have given it this week.

"Bees and Honey"—see page 803.

Bro. Doolittle's picture we notice is in the *Farm and Home* for June 15th. It is a nice likeness, and the biographical sketch accompanying it is "short and sweet"—it couldn't well help being "sweet" when it is about a honeyman. It says that besides producing honey, Bro. D. "has a garden and a small farm of 29 acres to care for, and runs a shop and steam-engine, making sections, hives and honey-crates." It shouldn't have been Doo*little*, but Doo*much*, or something equally as consistent, for Bro. D. does a great amount of hard work, both physical and literary.

A Complete Index will be found in this number of the BEE JOURNAL, to which we call your attention. It contains the subjects written upon, the names of the writers, and a list of the illustrations of Volume XXXI. The index, as we present it, serves as a key to unlock the treasures contained in another volume of the old AMERICAN BEE JOURNAL which is now closed. We trust that all have preserved the numbers from week to week, as they will form a valuable book of reference upon the subject of bee-culture.

Dr. Miller's Face is shown in that great agricultural weekly, the *American Farmer*, for June 15th, published at Washington, D. C. We are glad to see our famous bee-keepers receiving the attention due them at the hands of the publishers of farm papers; and no one is more deserving than our own Dr. C. C. Miller. Living in Illinois, as he does, we are going to claim the biggest share of the Doctor, though no doubt the whole continent will say he belongs to them. But then, he is big-hearted enough to go all around, so there won't be any chance to differ much over him.

The Biographies and portraits of bee-keepers have been kept up during the whole of the present volume of the BEE JOURNAL. That they have been appreciated by our readers is fully shown by numerous letters of approval received the past six months. We hope to continue the biographical department throughout the year, if not longer, in order that we all may become better acquainted with those who have helped to place the industry of bee-keeping on the high plain which it occupies to-day.

Bro. G. E. Seelman, of Westbury Station, N. Y., we are very sorry to learn, has suffered the loss of his loved wife. In reply to a letter written by him to a sympathetic friend, she says: "Weep not, Bro. Seelman; she is waiting and watching for you over there." Here is the letter referred to:

I have just been sorely afflicted. It has pleased our Heavenly Father to take from me and this world my companion and helpmate—as good a wife as man ever was blessed with. It has nearly broken me up, and, I must admit, my faith has been at its lowest ebb. But I must bow to the will of the Almighty, and remember that those He loves He chastises. It came unexpected, and unlooked for.

But I don't know why I should pour out my heart into the ears of a stranger. Yet I can hardly call you a stranger—the kindly words received from you even at the most trifling occasion, have made me look on you as an old acquaintance and friend. In sorrow we seek sympathy; it is but human, so please forgive. G. E. SEELMAN.

We wish to add our word of sympathy for our bereaved brother. How dark and mysterious are God's dealings with his children; and yet many times if we could but comprehend the lessons involved, how it would help us to bear up under trials and afflictions. Let us all remember in prayer those who are bereaved, invoking upon them divine grace and comfort.

Yes. 'tis sad to part with loved ones,
With those we hold most dear;
And yet their lives are bettered
While ours seem left most drear.

But while we mourn and sorrow—
Can scarcely trust God more—
We'll bow in humble waiting
For blessings yet in store.

While those we love are taken,
And we are left to sigh,
We still may live rejoicing—
We'll meet them bye-and-bye.

The Handsomest, as well as the ugliest looking, bee-keeper received a queen-bee as a prize at the late meeting of the South Texas Bee-Keepers' Association, as shown in its report on page 812 of this number of the BEE JOURNAL. We hardly know which to congratulate the more, seeing each got a queen. Perhaps it would be just as well to "call it even."

It's a Pity that a man cannot eat good advice; he gets so much of it free.

General Questions.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED

Why Did the Bees Swarm Out?

I had a colony of bees to leave for the woods on March 22nd. I opened the hive after they left, and found two frames partly filled with brood, three filled with capped honey, and two frames partly filled with honey. The hive was clean and nice, and there was no moth to be seen. Will Mr. Doolittle please tell why they left? C. L. BOWEN.
Louella, Mo.

The question was referred to Mr. Doolittle, who answers thus:

Such swarming out as the above is something that has baffled our best apiarists for years, and the question has often been raised why bees thus swarm out in early spring, and so far as I have ever seen, always unsatisfactorily answered. The prevailing opinion is that the bees become dissatisfied with their surroundings for some reason, and swarm out, hoping to better their condition. G. M. DOOLITTLE.

Nine or 10 Frames?—Button-Willow.

1. I use the Langstroth hive with 10 frames in the brood-chamber, and 9 frames in the upper story. Could I get more honey if I should use 10 frames above?
2. Is button-willow a good honey-plant? T. W. WHEELER.
Menardville, Texas.

ANSWERS—1. If the two stories are of the same size, then 9 frames will give a little more room for each frame than 10, and as the spaces left between the combs will probably be of the same size whether 9 or 10 frames be used, having one less space with 9 frames ought to allow room for a little more honey. That doesn't say that the same number of bees will put more honey in a season in the 9 frames simply because there is more room there, but if you wait till the story is full each time before extracting, you are sure that you will have less labor in extracting 9 than ten, with the possibility of more honey. So far as the work of the bees is concerned, when left to themselves they seem to prefer to have the outside combs, which are used solely for storing, a little thicker than the brood-combs, and they will have less capping to do on the 9 than the ten. Some of this is theory, but you will probably find in actual practice that those who have tried the 9 above and 10 below, have not gone back to 10 above.

2. Ignorance prevents an answer as to the value of button-willow, but it is pretty safe to say that any of the willows are good for both honey and pollen. Perhaps some of our readers will tell us about button-willow.

Why Was the Queen "Balled?"

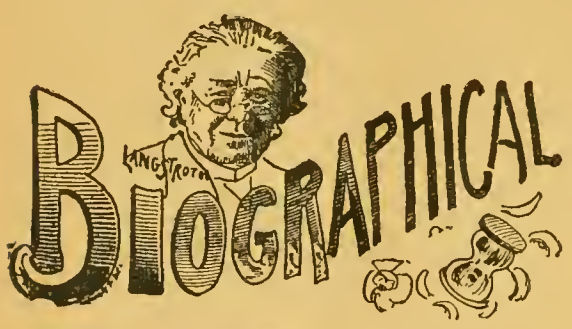
Will you please tell me why my bees "balled" their queen? I opened a hive of my best Italians, and found the queen in a ball of bees as large as a teacup. The queen was a young and prolific one. I found two queen-cells started. I caged the queen and laid the cage on top of the frames, and the bees clustered on the cage in hard knots.
Bishop Hill, Ills. G. E. NELSON.

ANSWER—It is no easy matter to tell why bees do many things. This balling a queen sometimes, when there seems to be no occasion for it, is one of the puzzles. Sometimes a queen will be balled after you have handled her, especially if you drop her near the entrance. The smell of your fingers left upon the queen may have something to do with it,

When a queen is about played out, the bees may ball her, seeming to be dissatisfied with a queen which does not do better work.

Sometimes the bees ball a queen to protect her, when they are disturbed. This might be the solution of your problem, but those two queen-cells rather look as if they were getting ready to supersede her. Although she might be "young and prolific," yet for some reason her prolificness might be about at an end, and the bees seem to foreknow this, preparing queen-cells and maltreating the queen. All things considered, this seems the most plausible answer to your question. After all, it is only a guess, and it is doubtful if you can have a positive answer.

Have You Read that wonderful book Premium offer on page 803?



J. W. ROUSE.

Perhaps among all the Missouri bee-keepers none is so prominent as Mr. J. W. Rouse, in the town of Mexico.

In the June *Progressive Bee-Keeper* (which, by the way, is quite consistent with the front part of its name) we find a good portrait and biographical sketch of Mr. Rouse, the latter of which we have this week taken the liberty to copy for the benefit of our readers. It was written by Mr. W. S. Dornblaser, who writes as one very intimately acquainted with Mr. R. Here is the sketch referred to:

Mr. J. W. Rouse was born in Monroe county, Mo., on Jan. 9, 1852, and is, therefore, in his 42nd year. When quite young he exhibited and developed a mechanical genius, and in after life took up a pursuit in which he could make some use of what seemed to him to be a natural talent.

He was married to Miss Williamson, in his native county, at the age of 20 years, and after his marriage he settled down to conducting a general repair shop on wood and iron work. As this business increased, it naturally led him into the manufacture of wagons, buggies, etc., finishing them complete, as he was an adept in all branches of mechanical skill necessary for this work.

While engaged in this business a natural fondness for honey led him into keeping a few bees. Once started in this industry, he very soon became an enthusiast. His enthusiasm was of that kind which "sticks," and in all the years that he has devoted to this profession, it has never lagged, but has led him on, on, on, step by step, until now he stands among the foremost bee-keepers in the State of Missouri. It led him gradually to abandon his old business, and more and more into the manufacture of various apiarian supplies. It led him to observe closely the necessities of his new pets, the best methods of supplying these needs, and then the result. It led him fully to abandon his old business, and embark wholly in and devote his whole time to the development of his apiary, and the industry he loved so well.

Such enthusiasm as Mr. Rouse displayed is commendable, provided it is not allowed to sway the individual of whom it has possession, instead of simply firing him with an energy to delve to the bottom, and climb to the top on the knowledge the delving revealed. In him it was happily held in check by a disposition to observe closely all things that presented themselves, to argue from cause to effect, and profit by the results of the argument. Thus his enthusiasm became a benefit, instead of a curse, as it often does, if, as above stated, it is allowed to sway the individual of whom it has possession. But, in Mr. Rouse, it was not satisfied with bringing benefits to him solely. If anything, Mr. R. is not selfish, and all the knowledge gained, the facts gleaned, the causes revealed, and effects pointed out, must be given to the world.

One of the things that early presented themselves to his mind was the fact that outside of those who actually kept bees, practically little or absolutely nothing was known of the profession. Not only this, but that much of what the world was supposed to know, was entirely erroneous, absolutely unfounded, and often actually ludicrous.

Another condition also presented itself to him. It was that many who were actually engaged in keeping bees, were bound by old methods, and knew nothing of movable-frame hives, or any of the advanced methods of handling them.

It has been his aim to correct, as far as in his power, the mistaken impressions upon the minds of those who were held by old, worn-out and impractical methods. He believes, and in a great measure, very truly, that many of the drawbacks, and much of the opposition to the industry, came from a lack of knowledge, not among bee-keepers, but among non-bee-keepers; that literature is wanted, not so much to educate and enlighten practical bee-keepers, but to instruct the mass of people who do not, and possibly never expect to, keep bees, as well as the novice, and the box-hive, hollow-log and nail-keg man. This conviction was always prominently before him, and in the several years in which he was engaged to lecture on apiculture in the farmers' institutes held by the

State Board of Agriculture, he devoted himself almost entirely to this issue.

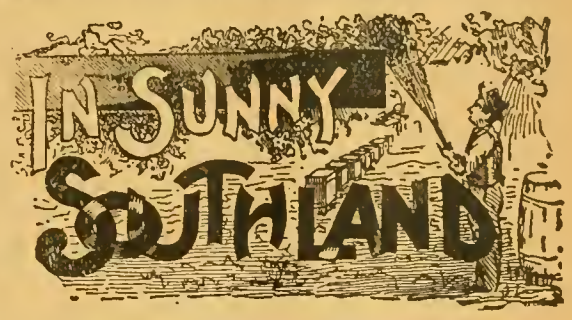
He has contributed considerable to the literature of his profession. Quite a number of his articles found their way into the various bee-papers, as well as the agricultural papers, but the work that brings him most prominently before the people, is "The Amateur Bee-Keeper," a neat and tasty little volume intended especially for the novice, the amateur and beginner, as well as those who are not engaged in bee-keeping. All this writing bears the stamp of one who is thoroughly conversant on what he is talking about, and at the same time

J. W. ROUSE.

bears that modest, unassuming style characteristic of the man.

He was one of the organizers and promoters of the Missouri State Bee-Keepers' Association, and served as its Secretary during the first two years of its existence. It is in convention work that the innate modesty of the man, coupled with his natural social geniality, as well as his quiet conviction of knowing what he knows, and being able to establish his knowledge, that makes him a "wheel hoss" in the work. His re-election to the office of Secretary was a deserved compliment to his first year's service.

A man of earnest Christian principles and thorough religious convictions, he takes his Christianity with him wherever he goes, uses it as a factor in his business, and at all times lets his light shine that the world may know what he is, and where he stands.



CONDUCTED BY

Mrs. Jennie Atchley,

GREENVILLE, TEXAS.

Good Report of the New Crop.

MRS. ATCHLEY:—My report for the spring crop is only 67 pounds per colony. I have 800 colonies. But the quality is as fine as I ever saw.

D. M. EDWARDS.

Uvalde, Tex., June 12, 1893.

Report of the South Texas Bee-Keepers' Convention.

MRS. ATCHLEY:—Prospects in South Texas are favorable for a large yield of honey this year, especially from the river-bottom apiaries. Our convention report is short, but we hope to have a better programme at our next meeting.

T. H. MULLIN.

Oakland, Tex., June 6, 1893.

The report referred to by Mr. Mullin is as follows:

SOUTH TEXAS BEE-CONVENTION.

The second regular meeting of the South Texas Bee-Keepers' Association was held at Wharton, Tex., on May 18, 1893. The convention was called to order by Pres. W. O. Victor. As T. H. Mullin, the Secretary, was absent, Mr. H. J. Moses was appointed Secretary *pro tem.*

Owing to the inclemency of the weather previous to the meeting, there was not a full attendance.

The minutes of last meeting were read and approved. The roll call showed 16 present. Several new members were

enrolled. A communication was read from Mrs. Jennie Atchley, of Greenville, Texas. Letters were read from Messrs. J. H. Mullin & Son, of Oakland, Mr. J. W. Eckman, of Richmond, and Messrs. W. R. Graham & Son, of Greenville, wishing success to the Association, and tendering their regrets for not being able to attend.

A five-banded untested queen was donated by Mrs. Jennie Atchley, to be presented to the most handsome bee-keeper present; upon ballot the honor fell to Mr. R. A. Armstrong, Jr.

Mr. W. O. Victor also donated a three-banded untested queen for the ugliest bee-keeper present; upon ballot, Judge M. H. Sanders was awarded the prize.

There were on exhibition two patterns of improved bee-hives, one made by W. R. Graham, and the other is called the "Root dovetailed hive," presented by W. O. Victor. The preference was given to the last-named.

The opinion was in general discussion, that the season had been unfavorable to bee-culture—the weather too cool, and too much rain for a full out-put of the honey product. A return of dry weather induces the hope of a better prospect for a large yield.

The convention adjourned to meet again at the apiary of Mr. W. O. Victor, of Wharton, on the first Tuesday in May, 1894. All bee-keepers are invited to attend and become members of the Association.

H. J. MOSES, *Sec. pro tem.*

The Honey-Plants of Northern Texas, and How to Utilize Them.

Read at the late Texas State Convention

BY DR. WM. R. HOWARD.

(Continued from page 782.)

Milkweed (*anantherix connivens*, Feay), commences flowering early in May, with a succession of flowers up to the middle of June, and sometimes later. It furnishes an abundance of honey of an inferior quality, being strong and pungent. It yields no pollen; its pollen cohering in masses, called *pollinia*, are suspended by a thread-like beak, in the sides of the connate mass of anthers, which are five-angled, truncate, opening by five longitudinal fissures, which, when the flower opens and comes to maturity, release the *pollinia*, throwing them out, and being furnished with wings, so to speak, and a heavy viscid beak will scarcely escape the cup-like flower without coming in contact with the stigma.

These pollen-masses are of great inconvenience to the bees, as in visiting the flower for the nectar, their feet come in contact with these *pollinia*, and by the viscid fluid they become firmly attached; and in going from flower to flower, every pair that touches, sticks. As soon as the viscid liquid dries, it becomes brittle, and soon falls off. They do not kill the bees, as asserted by some, but I am satisfied that bees are considerably disabled for the time being, by these unnatural and clumsy appendages, and I am of the opinion that bees would do as well, or perhaps better, without this plant; but where it is to be found, bees will invariably visit it, notwithstanding the deleterious consequences; but, were it not for this plant, some seasons, many apiaries would starve out, as it stands the drouth well, and is often the only honey-plant we have.

Persimmon (*diospyros virginiana*) commences to bloom early in May, with a succession of flowers for rather more than a month, early varieties sometimes have half-grown fruit by the time the later varieties are in bloom. It affords an excellent quality of honey; in localities where there are a few acres of these trees, bees will become rich in stores in a very short time.

Black sumac (*rhus*) commences to bloom about the first of June, with a succession of flowers for one month; white sumac 10 or 15 days later, both furnishing honey and pollen of fair quality.

Cottton-plant (*gossypium herbacum*) commences to bloom about June 15th, with a succession of flowers until frost, furnishing both pollen and honey. The blossom expands its petals of rich creamy-white, about 10 o'clock a.m. As soon as the flower is open enough, the bees visit it, gathering both pollen and honey; prior to the opening of new flowers, early in the morning, the bees seek the flowers of the day before, which have closed, and are of a pale-red color; diving down outside at the base, and lapping up the delicious nectar, which is no longer necessary for the development of floral organs. Bees gather more honey from this flower after it begins to close, say after 11 o'clock a.m. until 9 a.m. next day, than from the freshly-opened flower, which furnishes mostly pollen. The honey from this plant is dark, like that of buckwheat, but of good flavor, very thick, and granulating shortly after it is extracted.

Jamestown weed (*datura stramonium*),

commonly called "jimson," is visited late in the evening, and very early in the morning, but the bee is unable to procure any honey except from the largest flowers. Several species of wild bees (solitary) enter it, and some species gnaw into the flower at the base, for the purpose of obtaining the abundant supply of nectar which this flower evolves.

Corn (*zea mays*, Linn) tassel yields pollen early, and some honey later on. If the weather is favorable for the reproduction of plant-lice, we may expect them to attack the tassel, making the top leaves sticky and discolored by their dejections. I have seen bees "pile" on the tassel until you could scarcely have seen anything but the bees gathering this "honey-dew." The honey thus obtained is dark, but of very fair flavor.

The entomological history of these plant-lice (*aphids*) is very interesting to the student of nature, and to those who are interested I will refer you to the original article, written by me, in the May number of the AMERICAN BEE JOURNAL, 1880, from which I have drawn largely for the production of this essay. I will mention here that there is another product denominated "honey-dew," which is observable on plants after very dry weather, and consists of extravasation or oozing of the sap from the leaves.

Horsemint (*monarda*). This plant furnishes an excellent quality of honey, equal to white clover, finely flavored; it is the best honey-plant we have; it grows on all our prairies, stands the drouth well, and comes into bloom just when our bees are in their working strength; it blooms rather after the middle of June, and gives a succession of flowers for 1½ months, or rather more than 40 days. We all rejoice when our bees are safely through to the horsemint.

There are several species of this plant here which furnish more or less honey; the most valuable are *M. ciliata* and *M. punctata*. The first mentioned is nearly a month earlier in flowering, though both are valuable honey-plants, and deserve attention in the way of cultivation. I believe some of our apiarists have cultivated horsemint for its honey qualities. It yields no pollen worth mentioning; the anthers project in a direct line with the upper cleft of the flower, dusting its pollen-grains over the body of the visiting bee. Too much cannot be said for horsemint as as honey-plant.

Although I have had no bees for the past nine years, and have had little opportunity to converse with honey-producers in the region where this plant abounds, from general observation I am led to believe that this plant has for years at a time been very scarce, and has not yielded the abundance of honey it once did, and that some seasons it has failed almost entirely.

Pigweed (*chenopodium album*, Linn). This very common weed in fields and gardens, blooms about the first of August, and furnishes an excellent quality of pollen; unimportant as a honey-plant.

(Concluded next week.)

Bees in Florida and Minnesota.

I had much fun with the "Crackers" of Florida the past winter, handling bees in the swamps, and surprised every one by taking a colony out of a gum tree, and in 60 days they filled the hive, stored 60 pounds of nice orange-blossom honey in 1½-pound boxes; and the day before I left (May 5th) they cast a fine swarm. I hived them in a 3-story hive, with room for 60 pounds of comb honey, and expect to find them O. K. on my veranda in front of the house, in November, when I return.

A bee-keeper with 30 colonies there did not get 10 pounds of honey. He says that my bees took all the honey! There is a difference in handling bees properly, or letting them go it alone.

My bees wintered poorly here; 135 days in the cellar. I lost 40 per cent.; the balance hard at work now. Dandelions are the only flowers yet.

C. F. GREENING.

Grand Meadow, Minn., June 10.

Convention Notices.

NORTH CAROLINA.—The Carolina Bee-Keepers' Association will hold its sixth semi-annual meeting on July 20, in Charlotte, N. C., at the Court House, at 10 o'clock a.m. All persons interested in bee-keeping are invited.

Steel Creek, N. C. A. L. BEACH, Sec.

INTERNATIONAL.—The North American Bee-Keepers' Association will hold its 24th annual convention on Oct. 11, 12 and 13, 1893, in Chicago, Ills. Not only is every bee-keeper in America, whether a member of the society or not, invited to be present, but a special invitation is extended to friends of apiculture it every foreign land, FRANK BENTON, Sec.

Washington, D. C.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

Comb Honey at 10c. a Pound, or Extracted at $1 Per Gallon?

Query 877.—Which will pay the better if sold in the home market, comb honey at 10 cents a pound, or extracted honey at $1.00 per gallon?—Georgia.

Extracted.—E. FRANCE.

Extracted.—EUGENE SECOR.

Extracted.—S. I. FREEBORN.

The extracted.—R. L. TAYLOR.

Extracted.—MRS. L. HARRISON.

Extracted honey.—P. H. ELWOOD.

The extracted honey.—M. MAHIN.

I should say extracted, decidedly.—A. J. COOK.

I should think extracted.—C. C. MILLER.

Extracted at $1.00 per gallon.—JAS. A. STONE.

Extracted honey, decidedly.—JAMES A. GREEN.

Extracted, at the price named.—J. H. LARRABEE.

Extracted at $1.00 per gallon.—G. M. DOOLITTLE.

Extracted at $1.00 per gallon.—J. M. HAMBAUGH.

Extracted honey, every time.—EMERSON T. ABBOTT.

Extracted honey, even at 75 cents per gallon.—DADANT & SON.

The extracted article will pay the best at the figures given.—G. W. DEMAREE.

If the bees are well managed, comb honey will pay the best.—J. P. H. BROWN.

Extracted honey, every time; but such are not the conditions in Canada.—R. F. HOLTERMANN.

The extracted. Work your market by giving small bottles of your choicest to prospective customers.—W. M. BARNUM.

A gallon of extracted honey will weigh 12 pounds, and at $1.00 per gallon would be 8⅓ cents per pound. With only 1⅔ cents difference, I should produce only extracted.—C. H. DIBBERN.

Extracted will pay the best at $1.00 per gallon, or 8 cents per pound, as you get more honey, and if you can sell your extracted as readily at 8 cents as your comb honey at 10 cents, by all means produce extracted.—MRS. JENNIE ATCHLEY.

Extracted. Honey weighs about 12 pounds to the gallon, and if sold for $1.00 per gallon it would be equal to about 8 cents per pound. Your bees should produce one-half more extracted than comb honey, or, in other words, they would store 12 cents worth of extracted to 10 cents worth of comb honey, at the price you mention.—MRS. J. N HEATER.

Extracted, by all means, as there is only about 2 cents per pound difference in price. In my own locality I could make it pay better to sell extracted at 6 cents per pound than comb honey at 10 cents. Localities differ, though, in regard to honey-gathering. Some bee-keepers have told me that, taking it all in all, they can do better producing comb honey where both sell at the same price.—J. E. POND.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

July 20.—Carolina, at Charlotte, N. C.
A. L. Beach, Sec., Steel Creek, N. C.

Oct. 11, 12, 13.—North American (International), at Chicago, Ills.
Frank Benton, Sec., Washington, D. C.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

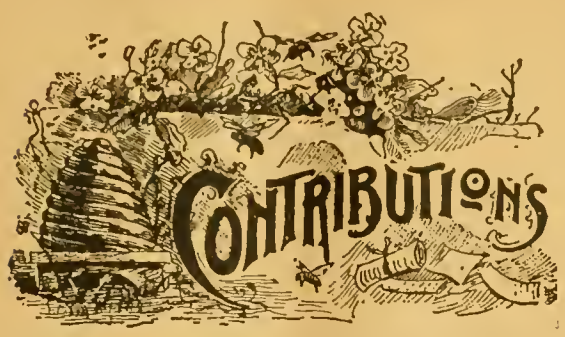
North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Your Neighbor Bee-Keeper—have you asked *him* or *her* to subscribe for the BEE JOURNAL? Only $1.00 will pay for it for a whole year. And, besides, *you* can have Newman's book on "Bees and Honey" as a premium, for sending us two new subscribers. Don't neglect your neighbor! See page 803.



Successful Bee-Keeping Not All in Hives.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

"Which hive had I best use in order to secure a large yield of honey?" is a question often asked me, just as though the honey crop was entirely dependent upon the hive used, while an hour's talk with beginners will show that many seem to think that large yields of honey are owing entirely to the style of hive used, but this is not so. Hives have something to do with the yield of honey, of course, but nothing as compared with a thorough knowledge of the location we are in, and an understanding of how to apply that knowledge so as to secure the bees at the right time, that the yield of honey may be gathered to the best advantage when it comes.

The securing of the maximum number of bees just at the time the honey harvest is at its best, counts more toward a paying crop than all else combined in apiculture, and explains why one colony in the yard will give a large yield of honey while many of the others which we supposed were better than this, give very little.

Again, the manipulation of hives has more to do with the surplus crop than the hives themselves, for no matter how good the hive is, if the combs are never touched or the surplus room put on at the right time, all may count for naught to the would-be bee-keeper, and the flowers bloom in vain as far as any profit to us is concerned. In order that others should not get the idea that the hives used and recommended by our best and most successful apiarists would give them thousands of pounds of honey without work, I have often said that if any one could not spend the time on the bees which they required, they had better keep out of the business.

I know of no hive with which a man can secure large results by simply folding his hands and letting the bees work. Such is not the economy of nature, and in order to succeed in any calling in life we must put energy, industry and perseverance into our work, if we would reap a harvest worth the gathering. To work hard from twelve to sixteen hours each day, at mere physical labor, is not all that is required, either, as many assert by their actions, if not by words; but there must be an energy and push, mentally, sufficient to grapple with all of the unsolved problems which are in the way of our success. If these are all combined, there is no reason why bee-keeping will not give as good results for what is expended upon it as any other calling in life, even though it is not so supposed by the majority of the world.

I wish to leave the impression on the minds of the readers of the AMERICAN BEE JOURNAL that large yields of honey can only be secured where there are large numbers of bees in time for the honey harvest, and the securing of the bees at that time is the secret of success. That more bees can be obtained at the right time by the use of the Gallup frame, together with a proper manipulation of the same, is my belief, and is the only reason that I adopted that style of hive, for other hives give many good points not obtained in the Gallup, but none of which are really great enough to make good their loss on this one point of preference this hive gives.

However, I have done nearly as well with the Langstroth hive and frame, and did I have 40 or more colonies on that style of frame, or in many good hives of the present day, I should hesitate some time before I made a change, trying first to see if a thorough knowledge regarding their manipulation and adapting this to my field, would not give success. If it should prove that the hive was not at all adapted to my locality, then of course I would make a change; but to change hives every time something new comes along, with the thought that with this I should succeed, is not the proper thing to do.

"Prove all things, and hold fast to that which is good," is as trite a saying to-day as it ever was.

Borodino, N. Y.

Bicycles are getting to be very common now-a-days. We have two for sale, and any one wanting a bargain in a good bicycle, should write to the office of the BEE JOURNAL.

Notes from the "Oak Leaf Apiaries" in California.

Written for the American Bee Journal
BY S. L. WATKINS.

We have had a great abundance of late spring rains, and these, in the southern part of the State, are the forerunners of a heavy secretion of nectar. Bee-keeping during these late spring rains is a time for watchfulness, and bees must be watched very carefully, as they may starve. It is not the wintering of bees that is difficult in this climate, but in bringing them safely through the spring months, during the rainy spells. As they are all breeding very heavily at this season of the year, they consume honey with great rapidity, and a colony running short, will starve in a few hours. Almost every spring I have occasion to feed part of my bees for a few days, and sometimes all of them. But it pays well, for the honey that they consume at this time of the year is simply a drop in the bucket compared to what they gather later on.

In a late letter from my friend, G. W. Cover, of Downieville, Sierra county, Calif., he furnishes the following interesting items:

"There are probably as many honey-plants in this section as any place in the State; the madrona does not grow here, it is too high for it. The mountain ash grows in abundance, and I have observed the bees working on it; it is usually in the heads of canyons. Among the late honey-plants that flourish here, may be mentioned the spignard, horse-mint, one-eyed daisy, golden-rod, and several varieties of asters. The Oregon grass flourishes here, and is a very good honey-yielder; it is a very early plant; the wild morning-glory yields quite a lot of honey; swamp hellebore is an excellent late honey-plant; black hellebore is a very beautiful plant, and a honey-yielder. The bees are working on maple, wild plum, and many other shrubs and various wild flowers. There will be no swarming here for sometime yet.

"In your letter you speak of the non-swarming plan; we are not bothered with much swarming here. If you go high enough up in the mountains, bees will not swarm enough to build up an apiary.

"The Carniolans are the best bees for this section.

"Yes, I think that the bee-business is looking up; the new converts will find that it will take care and work to make money at the bee-business. I expect the Sierras will be a grand bee-ranch some day.

"I have not tried the fixed frames; I have just made a hive to try them this year. I shall run for comb honey altogether this season. I took the premium on honey last season, at the Sierra and Plumas Fair, and ran against the celebrated Reno honey. G. W. COVER."

As friend Cover mentions, it would indeed be hard to find any section of country in the world, where there is such a diversity of nectar-secretiug plants; the beautiful and exquisite manzanitas are wonderful nectar secreters, and did they bloom in July instead of in early spring, the yield from this source would be immense; as it is, they bloom during the rainy season, and bees have only a partial show in gathering honey from this source.

The Sierra bee-pastures are of unrivalled and wondrous beauty during their blooming season; on all sides every hue and color imaginable is presented, while the air is spiced with the pungent odor of myriads of blooming plants and trees; at these locations can be seen vast stretches of lupines of various colors, larkspurs, callinsia, mountain mint, paradise plant, falocio, violets, several species of wild clover, roses, and several species of clanathus; the clanathus in certain seasons are great nectar-yielders; the Sierra Mountain lilies can hardly be termed nectar-secreting plants, still I think that they furnish an abundance of pollen; these wild lilies are of such wondrous and surpassing beauty that a slight description will not come amiss.

The Sierra white lily possesses very large flowers of a dazzling snowy whiteness, which are spiced with a delicous fragrance. The Sierra red lily is also large in size, with a glowing caffery red blossom, which is extremely beautiful. The Sierra snow-plant is also worthy of mention. In its flowering season it throws up a spike of deep, brilliant red flowers, which are so intense in color as to almost glisten and sparkle in the light; this plant is undoudtedly the most beautiful in the floral kingdom. It has been my experience that almost all plants possessing a fragrance, are great nectar-yielders.

I have found that by giving bees at least two frames of combs to build out in the upper story of a hive, and by extracting frequently, swarming can be kept down to a great extent. As I am now working for honey instead of increase of bees, so far I have been very

successful, and my colonies are all now vigorous, powerful colonies, and I think that I can easily manage them without the issue of a single swarm. Too much swarming means very little honey, unless they secure a large fall crop.

Grizzly Flats, Calif., May 20, 1893.

Why Farmers and Horticulturists Should be Bee-Keepers.

Read at the Illinois State Convention

BY C. P. DADANT.

In order to succeed in apiculture, it is not altogether necessary to be a specialist, and a farmer can keep a few hives of bees as well as he can successfully grow a small orchard or cultivate a truck-garden. The fact is, we usually find that the most successful farmers do not neglect any of the smaller branches of their industry, though some are more proficient in one line than in another.

The greatest draw-back to the keeping of bees by farmers, horticulturists, and country people in general, is the fear of stings. The majority of them imagine that the handling of bees is a difficult feat, and can only be performed by those who have a special gift in that direction. The recent progress in the management and handling of bees is unknown to the masses. Yet it is a fact that with all the latest improvements at our command—improved bee-smokers, bee-veils, movable frames, and the latest implement, the bee-escape—there is so little danger of being stung that it takes only a little determination to successfully handle a limited number of colonies.

Instead of saying, Why should farmers keep bees, we ought to say, Why should they not keep bees? There is probably not one farmer's family in fifty that get all the honey they can consume, and on every farm there are thousands of pounds of honey going to waste annually for want of bees to harvest it. Ten colonies of bees and an outlay of implements not exceeding $25.00, with ordinary management, will be sufficient to gather all the honey a family can consume. According to our own experience, the product of 10 colonies of bees in this State, is, on an average, 50 pounds each annually.

Very little time is required for the manipulations of this number of hives. With large hives, and the extracting method, the actual labor is reduced to a few hours. When the bees have been properly put into winter quarters, they need no attention till the first days of March. Then one short visit, each month, during the Spring, to ascertain whether they have queens, and whether the stores are sufficient to permit them to rear brood plentifully, and they will be safely carried to the time of harvest,

With extracting supers, the job of putting on the honey-boxes is a matter of less than an hour. Then the extraction of the crop will require perhaps a half day. The rest of the manipulation, including putting the hives in proper shape for winter, need not require more than a couple of hours at every visit.

The labor is indeed very light. To know what is wanted, and to do it in time, is the secret of success. To this we might add that the bee-business is a business of details, and that he who succeeds best is he who studies it most, and does not rely more on his own ideas than on the advice of experienced writers. More blunders have been made by ignorance, or by too much self-reliance, in this business, than in any branch of farming that I know of.

It is perhaps well to add that the bees are a useful factor in the fertilization of many blossoms. Their help is invaluable to the horticulturist, and it is a known fact to all observers that the season in which the fruit-trees bear the most plentiful harvest, are those in which the bees have worked on them with the most diligence. The fact is easily explained, and is in accordance with what the naturalists tell us of the structure of the blossoms, and of the fertilization of the pistils. To fertilize the flowers and make them bear fruit it is necessary that a little of the pollen be scattered on the pistil, and it is proven that this pollen is more efficient when not furnished by the same blossom or even by the same tree. So the bee is a natural agent in the reproduction of many trees and plants, and prevents in-and-in breeding from being carried to excess in all the blossoms on which it works.

The assertion of many people, that the bees are injurious to sound fruit is a gross error, and if more people kept bees they would soon ascertain that the bees feed on fruit only when it is already damaged, and when no other and better sweet is to be found. They aim to save that which goes to waste, but always save the best first.

The location of an apiary, on a farm, is an easily solved problem. There is always some corner, in which stock does

not go, sheltered by trees, or orchard, or along some hedge, and on every farm this corner might as well be occupied by bees as by weeds; and if a season comes when the corn-field or the stubble are are overrun by weeds,owing to too much rain or other unfavorable circumstances, the farmer may rejoice in the fact that these same weeds will increase his honey-crop.

Hamilton, Ills.

Non-Swarming—House-Apiaries—Bees in Minnesota.

Written for the American Bee Journal

BY BARNETT TAYLOR.

FORESTVILLE, Minn., June 14.

FRIEND YORK:—I have several of my non-swarming hives filled with bees. I wish you could be here and see two swarms with two queens working peaceably and indiscriminately together as one family. I know you would be as much pleased as I am. If the working of two swarms by alternating the working bees from hive to hive every six days to prevent swarming proves profitable, then the plan that has no traps, that uses a hive cheaper than common hives, will "take the cakes."

My new house-apiary is proving even better than expected. The bees in it are far stronger than equally good colonies when put out in the open yard.

The outlook for a good honey crop here, where there are any bees to gather it, is first-class; but the destruction of bees in Minnesota last winter and spring was terrible.

I inclose a letter from my friend Mr. J. L. Gray, of St. Cloud, Minn., which gives an idea of the feeling of bee-keepers here. Perhaps a portion of Mr. Gray's letter would be a valuable lesson to bee-keepers, if published. Mr. Gray is an extensive bee-keeper of long experience. Yours truly,

BARNETT TAYLOR.

As suggested by Mr. Taylor, we publish portions of Mr. Gray's letter:

ST. CLOUD, Minn., June 12, 1893.

FRIEND TAYLOR:—I have read your reports in *Gleanings* and the AMERICAN BEE JOURNAL, and have been much interested in their perusal. I agree with you in all your suggestions. Sealed covers did the mischief for me the same as for you, only to a larger extent. I lost 40 colonies out of 46 with sealed covers, and not more than 3 out of the remaining 6 are worth counting; 30 colonies with cloths with much propolis did not fare much better in this apiary, as there are not more than 6 or 7 that will build up.

In my "Farm apiary," as I call it, I did not lose a single colony out of 66; only 3 were queenless, which I successfully united with others, and the whole apiary is in fine condition.

I have bought 18 colonies in fair condition, at an average cost of $6 each, and can buy more—but I think I had better not, as the prospects for a honey crop are very poor indeed. There is some sort of a caterpillar stripping the basswood of all its foliage, I am told, which, if true, will leave us without much surplus. I shall build up this apiary by hiving many of my first swarms at the Farm apiary in full hives of nice combs, which I have moved up there.

Now, friend Taylor, I think we are about old enough to quit following any suggestions in bee-papers that are contrary to common-sense—like wintering bees without any ventilators, or using sealed covers to condense all the vapor and steam from the bees, to sour the unsealed honey, and give them the diarrhea.

My bees on the farm were put into the cellar on Nov. 12th, as I have always put them in, with simply a clean cloth over the top, and entrance wide open; top and sub-ventilators to the cellar open all winter, and quite a portion of the time one, and sometimes two, of the three doors to the entrance. They were taken out the evening of May 3rd, and had their first flight on the 4th, after a confinement of nearly six months.

I am quite well posted on the condition of bees within a radius of 20 miles, and can safely say that 75 per cent. are dead or worthless. The apiary from which I bought my bees is owned by one of the most slovenly of bee-keepers—did not put the bees into his excuse for a cellar until December, and many of the hives were full of ice and frost. He stripped off the old cloths, put on 7-cent sheeting, a rim 3 inches high filled with oat chaff, and set them in, one on top of the other, three hives high, and took them out the first of April, and had never looked them over till the last of May when I bought mine. There was only one colony dead when he put them out, out of 143 put in.

The combs are as bright as a new cent, and the bees healthy, with no sign of diarrhea on any of the hives.

Very truly yours,

J. L. GRAY.

Perhaps a Case of Bee-Diarrhea —"Pollen Theory."

Written for the American Bee Journal

BY C. W. DAYTON.

On page 586 Mr. J. C. Wallenmeyer asks what was the matter with his bees in the case cited, viz: "The storm blew off the covers, and drenched the outside combs. The next day I saw hundreds of bees dying around, shaking, shining and black, and very large. I suppose they were bloated." In the answer it is suggested that the "shaking" is a symptom of the nameless bee-disease. In my mind this is a genuine case of bee-diarrhea. If the bees had been confined six months, they might have died the same way. I have described this same thing at least four times in the AMERICAN BEE JOURNAL in the last ten years, and the general class of bee-keepers know just as little about it as if it had not been described at all.

At first the intestines of the bees contained a substance nearly like what is called "dry feces." When the rain came into the hives the bees sipped it up—filled themselves up, or loaded up, rather, with water. This water was cold, the whole hive was cold, in fact just like a man with wet clothing. Did you ever over eat of anything that was easy to ferment. Too large a load is more than the stomach can manage. If you started for the honey-house with 400 pounds of honey on your shoulder, I doubt whether you would ever get there. Much water, a little honey, and a low temperature are bad things. If it happens to operate as a physic, they would not become bloated, but it as often operates upon the former contents of the intestines in exactly the opposite way. Water and honey in a fermenting state are expansive, and if the cork is not firmly driven, it will help itself out.

I once read that fruit canned up cold with honey would keep, so I put up a few cans of strawberries well mixed with honey. In a few days the fruit and honey separated, and fermentation began, and one morning I found the screw cap forced off and driven into the ceiling overhead, and the fruit distributed about the honey-room.

It may be asked why bees sip up this water. It probably ran upon the combs of brood. The instinct of the bees is to keep the hives clean, especially where the brood is reared. Every one wants it neat and clean where they eat and sleep.

A "POLLEN THEORY" PROP.

One of the insurmountable questions in connection with the "pollen theory" was, why the bees did not have diarrhea when they had sugar for food and no pollen. Now I will tell you something you can do, and something you cannot do. You can pour water on a cluster of bees in front of the hive, or into the hive of a new swarm for a week and it will not have a bad effect. Let a swarm be away from their brood ten hours and they can be handled much more peaceably than if they have a little brood.

I have found out this season that I can take a whole load of new swarms a distance of seven or eight miles over rough roads with the entrances all open, and not a dozen bees will come out; but if there is one colony in the load that has one frame of brood, they will come out and run all over all the hives, seat or wagon-box, and make matters very disagreeable in the night, and in the daytime they will hold matters entirely in their own hands. Pollen is nearly as good as brood to make bees protect—it is the wherewith to rear brood. Take the brood and pollen away, and they care very little what to do as soon as their brood is forgotten. In which case they have nothing to protect, and no reason to sip up water. This was the one little prop in the "pollen theory" that held out so well.

Pasadena, Calif.

Samantha at Saratoga.—One of the richest books in genuine humor that has been published for many years, in the English language, is "Samantha at Saratoga," by Miss Marietta Holley. Rev. Dr. Newman, the Bishop of the Methodist Episcopal Church, says of this book:

"I commend 'Samantha at Saratoga' as an antidote for the blues, a cure-all for any kind of imaginary woe, a recreation from mental taxation, a provocation for wholesome laughter, and an inspiration to godliness. It is the bitterest satire sugar-coated with the sweetness of exhilarating fun; it is irony laughing at fashionable folly; it is exalted wit with the scalpel in one hand and the Balm of Gilead in the other. Her personality is intense, her genius immense, her art perfect. She stands alone in her chosen sphere without a rival."

Read our great offer of this book free, on page 773 of last copy of the BEE JOURNAL.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

One Hundred Pounds Per Colony.

I started in the spring of 1892 with 24 colonies in box-hives. I transferred them in March to movable-frame hives, and for my trouble I received 2,400 pounds of nice honey by Oct. 1st.

I have taken off this spring 850 pounds up to date, and have a honey-flow at this writing. T. W. WHEELER.

Menardville, Tex., June 1, 1893.

Gathering Honey Fast.

Bees are on a big run of linden, after six weeks of starvation, until no brood was in one hive out of every ten, and after feeding five or six hundred pounds of granulated honey. I lost only a few strong colonies, but had entirely empty hives at harvest time. Prime swarms were hived on full drawn combs the first week in April, and up to the 15th; the same had no brood up to June 1st, when basswood opened, and since which I have never seen bees gather honey as fast, or fill with brood. Those that had bees enough to do so are now full, and many in the sections. I was in doubt, as the bees were too old, and may not hold out, or the honey-flow may continue three to four weeks or more. We will see what all old bees can do.

It would be difficult keeping up with bee-keeping without the "old reliable" AMERICAN BEE JOURNAL. G. W. BISTLINE.

Bly, Tex., June 12, 1893.

Packing Bees for Winter, Etc.

After experimenting with sealed covers and upward ventilation of bee-hives for the last seven winters, I have come to the conclusion that to succeessfully winter bees out-doors, or on the summer stands, the bees must be packed above the brood-nest with some kind of packing material, such as chaff, planer-shavings, or sawdust will do.

The fall of 1892 I packed nearly all of my bees, which was 51 colonies in good condition with sealed covers, with six or eight inches of packing above the sealed covers, to keep out the cold from above, which I was sure it would do, and now for my pay I have 25 empty hives with soiled and moldy combs. Six of the 51 colonies were packed with about six inches of chaff above the brood-nest, with only a cloth between the packing and the frames. These were in 12-frame Langstroth hives, which came through in good condition.

My opinion of the two methods of preparing bees for winter, and the result, is as follows:

Hives with sealed covers will become damp and moldy, the bees will become swollen up with diarrhea, and death will follow, providing the bees do not get frequent flights, but should the bees fly often, they may winter well; and, on the other hand, hives that are packed above the brood-nest with wheat chaff keep dry, and the chaff does not get wet and soggy as does clover and buckwheat chaff.

Do bees injure fruit and grain? A good neighbor has argued that bees do injure fruit-blossoms and buckwheat when in bloom, and so far I have been unable to convince him that he is laboring under a false idea. C. A. BUNCH.

Nye, Ind., June 7, 1893.

Watering Brood in the Non-Swarmer.

About the "Langdon non-swarming device," Mr. J. M. Davis asks on page 689 how the brood left in the closed hive will be supplied with water. The answer might be: Close the entrance of the front, but have a hole bored on the back of the hive; which hole will be easily plugged when required. In that way the working force will still go to the other hive, while the young bees will be able to care for the brood. "MONTREAL SUBSCRIBER."

Results of Wintering in Iowa, Etc.

Bees, on the average, are doing well in this part of Iowa. White clover is just beginning to bloom, and about half of the colonies are in good condition for the honey-flow from clover. We have had a splendid rain, and should the weather continue favorable, I think this part of Iowa will get a good honey-flow from prairie-grass, as Mr. Wilson says that white clover and linden will be nearly a failure this year.

On page 635 is a letter from Jerry Bartlett, of Audubon, Iowa. He says that he was mistaken about all bees dying that were left out. Out of 150 colonies left out, in and around Coon Rapids, on the summer stands, there were less than 10 colonies alive. C. Johnson, Mr. Bartlett's neighbor, had 6 or 8 colonies left out, and he told me last week there was one left, and that was very weak. G. W. Dewey, of Bayard, Iowa, had 15 colonies, and lost all. Levering Bros., of Wiota, Iowa, left out 40 colonies, and wrote me they had lost all but 6, one-third being in chaff hives. J. Matz, of Guthrie Centre, lost 15 colonies. Wm Luckinbill had a total loss.

I left out 35, and have 7 left. I put 63 colonies in a cave, and took them out in the spring, and found four drone-layers. I

killed the queens, and doubled up the four with the other colonies, which left me 59 good colonies from the cave. Others that wintered their bees in repositories, as far as I can learn, wintered with small loss. This does not include those colonies cased with a 10-bushel box stuffed with straw and chaff to absorb the moisture and keep away the frost.

Reading Sam Wilson's predictions reminds me of an occurrence away back in the '60's, when about 40 miles southeast of Knoxville, Tenn. We were marching along one day, and passed a farm-house where the family were out viewing us. I was lurking behind the regiment, and passed a boy astride the fence. He turned to his mother and said, "Mam, them there Yankees ain't got any horns." "Hush, Sammy," his mother replied, "there is another Yankee coming there." "I don't care if there is," retorted Sammy, "he's no prophet like I is." I would like to know if he is the same Sam, of Cosby, Tenn.

THOS. JOHNSON.

Coon Rapids, Iowa, June 5, 1893.

White Clover Blossoming Scantily.

Judging by the indications at present, here in Central Illinois, our apicultural "cake" is dough again for this year. White clover, our standard source of supply, is blossoming very scantily, while there is a copious honey-dew. The upper side of the oak leaves is plastered with the sticky stuff, while the under side fairly breathes with aphides. All that is needed to enable the bees to carry immense quantities of it is damp weather.

The rains, last year, started a magnificent crop of clover, and I looked forward to a good honey harvest this year. A great deal of the clover was heaved out by the frost last winter, especially where it was not well protected by blue-grass.

We had a better bloom of white clover in July than in June last year. I hope it will be so this year. GEO. F. ROBBINS.

Mechanicsburg, Ills., June 9, 1893.

A Few Bee-Notes from Utah.

Reports and bee-notes from Utah have of late been conspicuous by their seeming absence; possibly the exceeding heavy winter losses have something to do with the spirits of the bee-men; the fact is that we are in the position that friend Root would call "blasted hopes," as we have lost from ½ to ¾ of what bees were put into winter quarters, notwithstanding the fact that one of the correspondents in the "Bee-Keepers' Guide," during last season, made the statement that the wintering of bees was no problem here in this region.

Wintering is a subject that I, for one, would be pleased to have more light on. If any of the correspondents of the BEE JOURNAL can furnish suggestions, that come from experience, on the cheapest and most successful way of wintering bees on the summer stands, in my opinion they will thus confer a favor on hundreds of bee-men who have been unsuccessful in wintering, because such is a very serious matter with numbers of us.

Our new foul brood law was tried in different sections last season, with varied success. The law itself is one that can be made to prove effective, providing inspectors are careful in performing their duties, but I notice that some are a little too careless, if I may use the term, in the way they go from apiary to apiary, and in my opinion at least, there is considerable danger of doing more harm than good in spreading the contagion. My point is that most of them in inspecting a diseased apiary are too liable to go to one not diseased without taking any, or but very little, precaution in disinfecting tools, etc., used in handling.

What bees we have left are beginning to breed up very well, considering the backward spring we have had, and prospects are favorable. JNO. C. SWANER.

Lehi, Utah, May 30, 1893.

Not Much Fruit-Bloom.

Almost everybody around here lost all the bees they had the past winter. I put 12 colonies into the cellar, and they came out all right, but it has been a long, cold, wet spring, and I lost one colony from spring dwindling. I have had no increase yet, but it looks as if they would swarm in a few days. There has not been much fruit-bloom here, and when fruit was in bloom, it was so cold the bees could not gather anything. HENRY BUSHBAUM.

Aredale, Iowa, June 12, 1893.

Bee-Keeping in New Hampshire, Etc.

Bee-keepers find that bees of late years don't begin to collect the honey they did 30 and 40 years ago. I think it is due in a measure, to a lack of white clover. I sow buckwheat, but I find but few bees on it. I asked a man who kept bees, why my bees did not feed on the buckwheat, and he said it was too near their hives. If it was a mile off, they would be there in great numbers.

Now, the question is, How far will bees go for their food? Mine have been baited by bee-hunters six miles off. Six years ago mine fought with a man's who kept several colonies of Italian bees. It was three miles to his place, and yet my old-fashioned black bees captured one of his colonies, and in two years my bees were many of them Italians, but now they are all blacks again. You ask if they were better than my old bees? No; only they were awfully ugly.

How far will a swarm of bees go to get into a tree? Mine have gone five miles, two miles of the way across the waters of Lake Winnipissaukee to an island. I observe that bees generally find a home near the water—low land—and why is it?

Why do bees like hogs, but can't bear sheep or horses? And some persons they will sting, while others can do anything with them and not get stung. Will some one please explain? J. L. HERSEY.

Centre Tuftonborough, N. H., June 5, 1893.

Index to Vol. XXXI.

SUBJECTS.

Absorbents 272, 402
Adulteration of honey....17, 80, 85, 114, 176, 184, 263, 305, 360, 399, 402, 408, 525, 617..... 657
Advice to bee-keepers 88
After swarms—preventing of.. 489, 648, 649, 713, 727
Age of queen when beginning to lay..... 565
Age when virgin queens mate 758
Albino bees..... 107
Alcoholized wax 268
Alfalfa 408, 437
Alley wants war..... 108
Alsike clover for honey.....120, 183, 396, 466, 744
Analyses of honey..... 175
Ants and bees 656
Ants in the apiary 791
Apiary for April..... 456
Apiary of F. A. Gemmill 391
Apicultural journalism..... 616
"Apicultural literarians"..... 181
Apicultural outlook..... 15
Apis dorsata..... .....147, 308, 554
Apis Florea..... 147
Apis Indica 147
Are drones from unfecundated queens virile ?.. 309
Attic or bees of Hymettus..... 146

Bad mess..... 167
Bait sections..... 754
Balling the queen..... 809
Barrels for extracted honey..... 778
Basswood for bees..... 338
Bee-diarrhea and its treatment..... 395, 439, 489, 503, 531, 664 755
Bee-escapes.....49, 336, 519
Bee-feeders.....399, 429
"Bee Journal" at the head..... 392
Bee-keepers' congress in 1893..... 81
"Bee-Keepers' Review"..... 295
Bee-Keepers' Union.....9, 74, 167, 214, 263, 305
Bee-keeping and the home 12
Bee-keeping as a specialty... 89

BEE-KEEPING IN—

California.....54, 84, 296, 396, 438, 462
Florida.....427, 525
Kansas..... 77
Minnesota 217, 310
Mississippi 269
North Carolina..... 407
Oklahoma Territory 531
Tennessee 119, 376, 717
Texas..... 77
Virginia 437, 598

Bee-notes and comments..... 117
Bee-paralysis..... .....302, 392, 399, 626
Bees affected with diarrhea..... 339
Bees and horticulture 624
Bees and fruit.....305, 436, 759
Bees and peaches..... .. 41
Bees and red clover..... 76
Bees as weather prophets..... 37,
Bees clustering at swarming time..... 559
Bees don't injure grapes 625
Bees leaving in March..... 586
Bee-smokers..... 695
Bees starving on pollen..... 181
Bees stealing eggs..... 665
Bees stealing honey..... 270
Bee-stings..... 689
Bee-stings and rheumatism.....56, 338
Beginners and the market 367
Best management for producing honey..... 621

BIOGRAPHICAL—

Benton, Master Ralph..... 587
Dadant, Chas 425
Demaree, G. W..... 329
Dibbern, C. H..... 779
Doolittle, G. M..... 203
Elwood, P. H 43
France, Edwin..... 650
Green, J. A..... 171
Grimm, Adam 138
Harrison, Mrs. L..... 458
Holtermann, R. F..... 683
Larrabee, J. H..... 715
Mason, Dr. A. B 747
McEvoy, Wm..... 393
Miller, Dr. C. C..... 105
Muth, Chas. F 234
Pond, Jos. E..... 523
Pringle, Allen 619
Quinby, Moses..... 266
Root, Amos Ives..... 555
Root, Ernest R 298
Rouse, J. W..... 810
Secor, Hon. Eugene..... 75
Taylor, Barnett..... 11
Tinker, Dr. G. L..... 490
Wilson, Emma..... 361

Bottom-boards 429, 488, 695
Brood-chamber for comb honey production..... 497
Building up colonies in spring 367, 437, 537, 662
Burr-combs on brood-frames 435
Button willow 8 9

California apiarian exhibit 488, 500
California bee-legislation.....391, 488
California climate..... 311
Can bees hear?..... 53
Can bees puncture fruit?..... 759
Candy for spring feeding..... 532
Can the queen establish the sex of her offspring at will 753
Carelessness in wintering..... 664
Caring for honey..... 239
Carniolan bees 145, 333, 405, 588
Cellar spring feeding of bees..... 403
Cellar wintering of bees.....342, 690
Cell protectors 537
Changing the air in cellars..... 170
Chilled queens..... 489
Closed-end brood-frames..... 372
Cold place, but bees wintered 695
Comb baskets..... 246
Comb honey at 10 cents a pound, or extracted at $1.00 per gallon..... 814
Comb honey for market..... 367
Comb leveler 567
Comb or extracted honey ? 621
Compression theory as to queens..... 408
Convention reports..... 180

CONVENTIONS—

California..... .....
Central 337
Cortland Union..... 336
Eastern Iowa..... 367
Illinois 239
Indiana.....431, 464, 495, 527, 560, 592, 624
Michigan.....15, 47, 142, 175
New Hampshire..... 821
North American.....79, 111, 199, 206, 423, 583
Nova Scotia..... 216
Ontario..... 149
South Texas..... ..... 369, 811
Southwestern Wisconsin..... 400
Texas..... .....559, 589, 620, 651, 685, 716
Utah..... 821
Vermont 272
Wisconsin..... 399

Crane bee-smoker..... 661
Crooked combs.....332, 438
Cure for bee-diarrhea..... 755
Cure for blues..... 152
Cyprian bees..... .....77, 146, 588

Dalmatian bees..... .. 146
Dampness and bee-diarrhea.....439, 371
Dark Italians or golden Italians..... 184
Darkness, dryness, dormancy—three wintering essentials 502
Dead bees..... 713
Dealing direct with producers..... 601

DEATH NOTICES—

Hambaugh, Mrs. Elmina 42
Harbaugh, R. E 423
Mott, Mrs. Dr. Geo..... 456
Seelman, Mrs. G. E..... 808
Wilson, Mrs. D. C 456

Department of Agriculture and apiculture..207, 208
Died with plenty of honey..... 777
Digesting food and storing it for future use..... 752
Divided colonies as good as from natural swarming 116, 371, 524
Divided colonies vs. natural swarming..... 371
Do bee-keepers need an experiment apiary ?.... 784
Doubling colonies..... 728
"Driving" bees explained..... 618
Drone mating with a worker..... 268
Drones and swarming..... 713
Drones for breeding purposes..... 713

Editorial assistance..... 520
Eggs in queen-cells..... 270

Employment in Colorado and California apiaries 756
Empty combs..... 240
End of the rope..... 552
Exhibits at fairs..... 457
Experiment apiaries 775, 784, 787
Experience with bees..339, 374, 409, 469, 504, 600, 725
Experiments in apiculture..... 47, 742
Experiments in wintering bees..... 721
Extracted honey..... 247, 269
Extracted honey packages..... 240
Extracting pieces of comb..... 521

Fastening comb starters 434, 647
Feeding back extracted honey 274
Feeding bees 137, 182, 274, 333, 363, 429, 563, 718
Feeding inferior honey..... 296
Fertile queens and Alley traps..... 632
Few bees and much attention vs. many bees and little attention 49
Filtering dark honey to improve its color..... 463
Five-banded bees..... 790
Flaring-top comb rack for extractors..... 78, 631
Flight temperature 459
Floating bee-houses on the Nile 89
Formic acid and pain..... 522
Foul brood..... 215, 268, 399, 594, 693, 695
Foul-broody hives—how to disinfect..... 206
Foundation starters with separators..... 521
Frames of honey for new swarms..... 585
Freight rates on honey..... 104
Full sheets of foundation..... 367

Getting bees from a high tree 632
Getting bees to empty a super..... 553
Getting rid of black drones 715
Glucose mixtures..... 50
Glucosing dark honeys..... 168
Grading of honey..... 111, 423
Granulation of honey..... 493, 790
Green-house for wintering bees..... 660
Ground bark for packing bees..... 790

Handling gentle hybrids 652
Hasty conclusions of some apiarian writers..... 340
Hive entrance and frames..... 588, 653
Hive invention..... 719
Hive making by hand..... 622
Hive that had diseased bees..... 553
Hiving swarms..... 62, 728
Hiving swarms on drawn combs 754
Hiving swarms on starters or empty frames..44, 184
Hives—a new one 276
Hives for comb honey..... 428
Holder for sections..... 407
Holy Land bees 588
Honey an animal or vegetable substance..... 718
Honey caramels..... 170
Honey-dew aphidian honey or secretion of leaves 599
Honey from cotton 589
Honey from golden-rod and Alsike 87
Honey, not swarms wanted.. 681
Honey or sugar syrup for breeding..... 553
Honey-plants of Indiana..... 527
Honey-plants of Northern Texas..... 781, 812
Honey-producing trees and plants..... 569
Honey prophet and prophecies..... 534
Horse-blanket and bees..... 405, 504
Horse-mint..... 302
House-apiaries 272, 395, 567, 818
House-top bee-keeping..... 365
How far bees fly for honey..... 45, 376, 404, 470
How Michigan secured its experiment apiary... 787
Hybrid and black bees—are they worth improving ?..... 691
Hybrids vs. Italians for honey..... 270, 312, 435

Illinois bee-keepers..... 297
Illinois bee-legislation 169, 328
Illinois World's Fair apiarian exhibit....71, 615, 647 712
Importance of the honey-bee..... 80
In-breeding of bees..... 461, 597
Incorporation 213
Indiana bee-keepers..... 359, 520
Indiana World's Fair exhibit..... 592
In-door and out-door wintering compared 686
International bee-conventions 583
Introducing queens..... 44, 332, 364, 427, 713, 780
Inventions in apiculture..... 80
Iowa World's Fair apiarian exhibit 103, 776
Italian bees..... 145
Italianizing bees 745

Jumping plan of working colonies..... 529

Keeping bees near a railroad 563
Keeping bees on shares..... 714
Keeping bumble-bees..... 659
Keeping combs from moth..... 336
Keeping Italian bees pure..... 74
Keep the cellar dark..... 460

Land of Dzierzon..... 330, 468
Land of flowers..... 332
Langdon non-swarming device..... 627, 689
Large hives..... 586
Late queens 280
Laying workers..... 108, 244
Lessons from "the blessed bees"..... 658
Liquor business and the Government..... 745
Locating an apiary on a mountain side..... 622
Location for bee-keeping 433, 589
Loose bottom-boards..... 429, 488, 695

Making comb from wax 85
Making short honey seasons profitable 304
Mailing queens..... 308
Managing swarms..... 625
Manum bee-feeder..... 296
Maple sugar for winter feeding..... 429
Marketing honey 301, 304, 337, 470
Marketing honey in paper cartons..... 590
Mating of queen and drone..... 407, 599
Mating of virgin queens..... 461
Mesquite as a honey-plant..... 280
Mice in bee-cellars..... 265
Michigan experiment apiary..... 787
Michigan World's Fair apiarian exhibit..... 50
Milkweed and buckwheat honey..... 120
Moisture—perhaps it was 521
Mold in cellars 296
Mongrel bees 343
Mortality of bees in winter..... 568
Moth-miller..... 723
Moths—getting them out of hives..... 681
Moth-worms in combs 745
Moving bees a long or short distance..... 365, 617
Moving bees in winter..... 202, 249, 333, 377
Mrs. Smith lends a helping (?) hand 663
Mutual aid, or helping each other..... 717

Nameless bee-disease 140, 265, 468, 536
Natural swarming..... 426
New bee-hives..... 456
New comb built out of old..... 759
New era in the production of honey..... 179
Nine or ten frames ?..... 809
Noise at swarming-time..... 559
Non-swarming..... 818
North and the South..... 492
Notes from the "Oak Leaf Apiaries" of California..... 816
Nuclei 489
Nucleus method of replacing winter losses..... 725
Number of colonies for comb and extracted honey 110, 370
Number of cubic inches in a brood-chamber..... 174

Old combs..... 362
Old hybrids and blacks—would new blood improve them ?..... 494
Old queens with first swarms..... 560
Old subscribers..... 201
One or two rowed zinc..... 553
One-pound sections of honey..... 489
Opening hive-entrances in winter..... 336
Over-production and overstocking..... 503
Overstocking a locality with bees..... 433, 503
Origin of the honey-bee..... 553
Outside wintering in Lower Canada 755

Packing as an absorbent 532
Packing bees for winter..... 820
Packing case method of wintering bees..... 22, 151, 242, 275, 503..... 532
Paddock Pure Food Bill..... 39, 52, 456, 510
Painting hives..... 406
Parthenogenesis 693
Partly-filled sections..... 295, 337
Pennsylvania World's Fair apiarian exhibit..... 71
Perforated zinc 272
Perhaps bee-diarrhea..... 819
Perhaps not fertilized in confinement..... 759
Pioneer bee-keepers of Texas..... 172
Planting for honey 365
Poisonous honey..... 201, 428, 554, 627
Pollen in frames 585
"Pollen theory" prop..... 819
Predictions for the honey-flow of 1893..... 375
Preparing for the honey-flow or season .237, 269, 302
Preparing for the next season..... 21
Prevention of swarming..... 593, 616, 688
Price of extracted honey in years of scarcity.... 499
Primitive bee-keeping in Texas 651
Probably killed by cold 682
Producing honey on a large scale..... 331
Profitable reading..... 408
Progression in bee-culture..... 719

Proper time to put on surplus cases..... 757
Prophecy of the honey-flow for 1892..... 690
Propolis as a smoker fuel..... 616
Punic bees.....53, 424
Purity of queens..... 521
Purple or Italian clover..... 182
Pursuit to combine with bee-keeping..... 303
Putting bees out of the cellar 459

Quack bee-keepers..... 723
Queen 523
Queen a hermaphrodite..... 599
Queen and spermatic cells 330
Queen-bee experience 23, 87
Queen-bees—difference in size..... 334
Queen-breeding 167
Queen-cell built over a drone-egg 526, 727
Queen-excluders 593
Queen-excluding honey-boards..... 465
Queenless colony in winter.....237, 363
Queen or worker?..... 565
Queen questions.....266, 429, 777
Queen-rearing.....617, 777
Queen-rearing frame size 552
Queen records..... 434
Queens cramping..... 564
Queens injured by being chilled..... 489
Queens mating in the air 76
Queens—test for purity 521
Queens with 2nd and 3rd swarms..... 560
Queer actions of a colony..... 554
Questions and answers..... 327
Quilts in summer..... 489

Rain of honey-dew..... 599
Rearing queens 273, 495, 749
Reason why bees don't pay sometimes..... 150
Records of queens..... 434
Reducing bees 100 per cent 565
Relative profit of comb and extracted honey.... 274
Removing dead bees from combs..... 460
Removing eggs from cells... .....532, 535, 590
Removing honey from brood-combs to the sections.....558, 589
Re-queening 375, 631
Reproduction in bees.....82, 721
Reversing frames—questions on 533
Rheumatism cured by bee-stings.....307, 312
Robber bees 521
"Rough on Rats" for killing ants..... 791

Sawdust for packing bees..... 459
Sawdust gathered by bees..... 439
Scale record of a colony..... 438
Sealed covers.... .....402, 566
Section holders..... 148
Selecting a home before swarming..... 588
Self-hivers.....142, 471, 757
Self-hivers and the drone and queen-trap....401, 757
Selling the honey 301
Sense of smell in bees..... 53
Separators 264
Separators and unfinished combs..... 397
Severe winter in New York..... 152
Shall we go out of the bee-business? 49
"Shake-out" function of hives..... 585
Skunks in the apiary.....115, 462
Something very funny..... 170
Southern queens..... 297
Spermatic animalcules in bee-eggs..... 330
Spraying of fruit-trees... 113
Spraying potatoes 273
Spreading the brood-frames unnecessary and cruel..... 566
Standards for judging Italian bees..... 240
Starting queen-cells 185
State experiment apiaries..... 775
Still thinks it a queen..... 505
Stimulative spring feeding..... 522
Stings and the breath.... 648
Sting-trowel theory.....137, 330, 370, 467
Stock or Beveridge willow for bees..... 337
Straw-board separators 521
Stray straws 88
Strengthening bees..... 727
Strong colonies for comb or for extracted honey? 783
Successes and discouragements in bee-keeping.. 373
Successful bee-keeping not all in hives..... 815
Successful wintering conditions..... 695
Sugar-cane—gathering honey from 504
Sugar-cane syrup for wintering bees..... 139
Sugar-honey.....18, 71, 135, 181, 199, 231, 295, 615
Sugar syrup or honey for wintering.....368, 786
Summerland of Florida..... 331
Swarm-catchers made from broom-handles..... 471
Swarming of bees..... 588
Swarming out..... 809
Swarm scattered all over a tree..... 553
Swarms hived on starters.....310, 312
Swarms occupying empty hives put up in trees. 789
Syrup for feeding..... 718

Taxing bees..... 233
Teachers in bee-keeping..... 631
Telling old queens 45
Temperature reports.....24, 248, 343
Texas and her resources..... 780
Texas horticultural meeting..... 744
"That bee with the glands"..... 181
Thumb-screws 460
Tight-end frames and moths 791
Transferring bees.....74, 204, 438, 461, 490, 521, 617, 649, 652 684
Treatment of swarming queens..... 435
Tremendous honey-flow..... 681
Tunisian or "Punic" bees 147

Unfinished combs and separators.... 397
Union of bee-keepers..... 368
Uniting colonies 54, 306, 333. 655
Utah bee-notes 821

Value of a good colony in fall and in spring 238
Value of bee-literature..... 184
Varieties of bees and their characteristics ..144, 620
Vermont exhibit 273
Vermont law against adulteration..... 424
Virgin queens 246, 461, 758
Voice organs of the bee..... 744

Wagner and Langstroth..... 525
Watering bees in the non-swarmer 820
Watering troughs and bees..... 552
What Bro. Alley wouldn't do.....584, 680
What caused the dwindling?..... 746
White sage of California..... 720
Why did the bees die? 297
Why did the bees swarm out?..... 809
Why farmers and horticulturists should be bee-keepers..... 817
Why some people suffer from stings and others not..... 689
Why was the queen balled? 809
Wide frames..... 297
Wild peach of Texas 312
Will of the queen and sex of the egg.....51, 108, 244, 402, 492, 505, 565, 711, 753 755
Will the colony swarm ?..... 489
Will the nucleus swarm ?..... 585
Wintering and springing bees..... 589
Wintering bees.....118, 277. 369, 598, 721
Wintering bees in Iowa 820
Wintering bees in the South..... 45
Wintering bees out-doors 375
Wintering bees under ground 434
Wintering bees under snow..... 336
Wintering bees up-stairs..... 600
Winter losses and other bee-keeping matters.... 788
Winter losses of bees in Northeastern Iowa.... 785
Winter problem in bee-culture..... 560
Wisconsin honey exhibit 231, 280
Worker-brood in drone-comb..... 746
Worker-eggs laid in drone-cells..... 330
Working for increase..... 364
Working qualities of bees..... 564
World's Fair apiarian exhibit.....81, 399
World's Fair notes..... 679

Yellow jessamine..... 428
Yellow sweet clover..... 777
Yield of honey-plants..... 589

ILLUSTRATIONS.

Alsike clover 467
Crane bee-smoker..... 661
Benton, Master Ralph..... 587
Dadant, Charles..... 425
Demaree, G. W..... 329
Dibbern, C. H..... 779
Doolittle, G. M..... 203
Elwood, P. H 43
France, E 650
Green, J. A..... 171
Grimm, Adam 138
Harrison, Mrs. L..... 458
Holtermann, R. F..... ... 683
Langdon non-swarming device..... 629
Larrabee, J. H..... 715
Mason, Dr. A. B..... 747
Mating of queen and drone..... 600
McEvoy, Wm..... 393
Miller, Dr. C. C 105
Muth, Chas. F..... 235
Pond, Joseph E..... 523
Pringle, Allen 619
Quinby, Moses..... 267

Root, A. I 555
Root, Ernest R 299
Rouse, J. W 811
Secor, Hon. Eugene 75
Taylor, Barnett 11
Taylor's comb-leveler 567
Tinker, Dr. G. L 491
Wilson, Miss Emma 361

CORRESPONDENTS.

Aaron, Mrs. C. B. 343
Abbott, L. F. 466, 535
Adamson, Ira, 119
Alldritt, Wm. 377
Allen, Chas. 536
Alley, Henry, 401
Andes, M. D. 297, 371
Andre, J. H. 727
Andrews, Jno. 405
Arms, A. A, 400
Arnold, F. X. 404, 470
Aspinwall, N. P. 72
Atchley, E. J. 686
Atchley, Mrs. J. 23, 456
Atkins, F. B. 86
Axtell, Mrs. L. C. 152

Babb, A. C. 119, 376
Bagshaw, Jno. 521
Baird, A. B. 312
Balch, J. C. 371, 746
Baldwin, A. A. 727
Baldwin, A. Y. 665
Baldwin, G. G. 791
Bankston, C. B. 77
Barb, J. S. 423
Barnell, J. 376
Barnett, Allen, 601
Barnwell, E. A. 307
Barringer, J. W. 343
Barrows, O. B. 406
Bartlett, Jerry, 695
Bartz, Aug. 246, 537
Beardsley, Edw. H. 119
Beaupre, M. 489, 601
Bechly, Fred, 633
Beeler, E. F. 217
Beeson, Jos. 600
Beheler, B. F. 633
Belding, C, 265, 598, 728
Bell, G. W. 118, 536
Bellamy, Jas. R. 246
Bence, C. J. 617
Benton, Frank, 145, 308, 584, 585, 627
Biesemeier, F. 185
Bingham, T. F. 695
Bistline, G. W. 820
Blair, D. B. 663
Blakley, C. W. 110
Blank, F. N. 745, 791
Blodgett, J. W. 310
Boardman, H. R. 466
Boggs, Jno. 184
Bohlmann, H. 279
Boultinghouse, B. F. 759
Bowen, C. L. 809
Bradford, A. E. 373
Brldenstine, E. 297, 489
Briggs, A. A. 377
Briggs, D. K. 721
Bright, Wm. H. 632
Brooks, E. W. 777
Brown, H. H. 151
Brown, M. D., O. S. 277
Bruning, W. F. 536
Buckley, A, D. 408
Bunch, C. A. 820
Burnett, R. A. 104
Bushbaum, Henry, 821
Butts, S. S. 504
Byer, David, 87

Cadwallader, D. A. 665
Calef, D. R. 600
Carlzen, S. M. 310, 364
Cary, Elisha, 503
Catterson, J. B. 562
Chamberlin, Chas. C.279
Chandler, L. 87
Chapman, S. D. 339
Clarke, Wm. F. 214, 330
Coleman, H. F. 279, 521, 537, 590, 633, 652, 681, 727
Collins, Jno. 396, 462
Common, J. R. 52,471,696
Conrad, J. 245
Cook, Prof. A. J. 9, 48, 82, 176, 201, 429, 727
Couvillon, P. E. 505
Cover, G. W. 816
Coverdale, F. 183, 367
Crary, Jno. W. 248
Creasy, G. A. 438
Crosby, A. F. 88
Cullinan, W. J. 276, 437, 690
Cutting, H. D. 424

Dadant, Chas. 426
Dadant, C. P. 817
Dadant, Chas. & Son,778
Davenport, F. J. R. 437, 585
Davenport, Mrs.S. A.343
Davidson, A. C. 746
Davis, Jno. M. 689
Davis, W. J. 1st, 310
Dayton, C. W. 720, 756, 790, 819
Dee, Emm, 689
Demaree, G. W. 626
Dill, J. C. 554, 745
Ditty, Wm. 760
Doolittle, G. M. 20, 148, 152, 297, 306, 433, 563, 568, 655, 809, 815
Dornblaser, W. S. 810
Douglas, W. S. 313
Duff, A. H. 456
Dunkin, Mary J. 682
Dunlap, J. B. 407

Eastwood, L. 120
Eckles, C. H. 789
Edwards, D. M. 811
Efird, F. B. 395
Ehret, Jos. 88
Ellis, E. B. 107, 522
Ely, L. S. 472
Emmert, Jno. V. 377, 601
Eskew, J. R. 182
Everman, Jake, 790

Fairchild,Rev.Miller,759
Falkner, C. E. 150, 664
Farnum, H. C. 115
Faylor, Rev. W. P. 372, 785
Feathers, P. 569
Finch, F. 334
Finney, A. 536
Fisher, Jno. D. A. 408
Fisk, A. M. 54
Flory, Samuel, 183
Foreacre, Thos. 396
Foster, Geo. J. 337
Fowke, R. C. 714
Fraser, D. J. 279

Gale, Geo. 87
Gardiner, F. A. 332
Gardner, M. W. 714
Gardner, W. W. 344
George, L. 23
Getaz, A. 439, 757
Girard, A. 490, 633, 727
Golden, J. A. 392
Goodell, C. A. 152, 665
Goodrich, J. D. 310
Gordon, Mrs. M. W. 493, 525
Gray, J. L. 818
Greeley, E. 536
Green, J. A. 21, 242, 275, 691
Greening, C. F. 332, 428, 461, 685, 813
Gresh, Abel, 505
Grover, Irvin, 632
Guenther, Jos. 459, 663
Gunn, Geo. T. 342

Haas, M. 407
Hachenberg, Dr. G.P. 53
Hall, Jos P. 436
Hallett, E. H. 248, 460
Hambaugh, J. M. 42, 648
Hammond, D. D. 368
Hammons, Chas. 297
Handel, Jno. 23
Harmer, W. 120, 184,408, 504, 568
Harrington, F. F. 119
Harrison, Mrs. L. 9, 280, 332, 427, 583
Hart, Fred M. 468
Haskins, Jno. 311
Hatch, R. C. 311, 723
Hauser, Jno. 438
Havens, B. F. 520
Heddon, James, 18
Heise, A. 472
Heise, D. W. 460, 504
Henderson, T. J. 694
Herr, Mrs. R. H. 626
Hersey, J. L. 821
Hewett, C. P. 695
Hicks, Dr. J. M. 624
Highbarger, L. 408
Higgins, J. T. 216
Higgins, Levi, 24
Hill, J. H. 493
Hines, T. O. 312
Holeman, D. A. 633
Hollingsworth, T. 469
Holtermann, R. F. 662, 688
Housel, Wm. 696
Howard, Dr. Wm,R. 717, 781, 812
Howell, R. 535
Huffman, E. L. 744
Humphries, R. H. 439, 665
Hutchinson, Edwin, 279
Hutchinson, W. Z. 15, 20 47, 79, 111, 142, 175, 215, 465, 787

Iiams, Byron, 792

Jackson, L. L. 217
Jacobs, J. M. 85
Johnson, Lowry, 438
Johnson, Thos. 533, 788, 821
Jones, Orville, 184
Judkins, Mark D. 695,791

Keady, Thos. 241
Keeler, H. F. 659
Kelly, Thos. C. 342
Kerr, John, 87
Keyes, O. H. 521
Kildow, A L. 107
Kimsey, Dr. S. M.617,777
King, Jas. A. 537
Kittinger, W. 533
Knight, H. 42
Koehler, Louis, C. 55
Kopplin, Alex F. 695
Kretchmer, E. 776
Kropp, Jno. C. 396

Lamkin, A. W. 311
Lang, C. F. 791
Larrabee, J. H. 215
Latham, J. F.179,753,760
Lathrop, H. 399, 728
Laws, Mrs. W. H. 362
Laws, W. H. 302
Leah, Chas. W. 332
Learned C. W. 503
Leers, Ph. D., Wm. 182, 501
Leveling, H. 364
Lewis, B. F. 269
Lewis, C. S. 461
Lewis, Jesse B. 118
Lillibridge, J. C. 437
Lindbeck, D. 403, 505, 553, 586
Littooy, G. D. 681
Lockhart, & Co.,F. A.333
Looft, C. G. 647
Losee, B. 569
Lovesy, E. S. 656
Lyon, J. E. 337

McCabe, O. E. 183
McCormick, Wm. B. 56
McCormick, W. H. 553
McDonald, F. H. 118
McEvoy, Wm. 24,149,594
McGuire, G. W. 438
McKean, D. L. 791
McKeon, Jno. 760
McKinney, Dr. J. W. 181
McNay, Frank, 694
Main, B. S., F. F. 758
Malta, 790
Manchester, J. H. 343
Manum, A. E. 616
Marden, Mrs. C. 118
Marsh, J. A. 302, 531
Marshall, Dr. W. K. 45
Martin, Jno. H. 54, 306
Martin, W. E. 120
Martin, W. W. 489
Mathews, R. J. 632
Matthias, M. D., A.C. 53
Maximilian, 270
Mead, C. E. 434, 724
Meador, W. S. 86
Mendleson, M. H. 151
Mercer, N. 312
Michael, J. F. 496
Miles, E. S. 265, 537
Miller, Dr. C. C. 51, 88, 112, 114, 136, 180, 200, 213, 244, 301, 309, 339, 362, 370, 402, 435, 467, 531, 551, 557, 565, 775, 784
Miller, J. W. 728
Miller, O. P. 117
Miller, S. E. 434, 757
Millard, D. 569
Montague, C. A. 120,435, 536
"Montreal Subscriber," 755, 820
Moore, Alice S. 528
Moore, Jacob, 24,248,364
Moore, J. F. 72
Moore, T. C. 696
Morrow, F. C. 696
Morton, W. E. 536
Moses, H. J. 812
Mott, Geo. 45, 270
Mullin, T. H. 369, 811
Muth, Chas. F. 104, 360 407, 499, 593

Nance, G. W. 182,249,663
Nelson, C. L. 438
Nelson, D. L. 364, 492
Nelson, G. E. 809
Newland, B. H. 695
Newman, Thos. G. 10,73 167, 264

O'Connell, D. 310
Olmstead, O. K. 409
Overholt, Israel, 694

Packard, O. L. 234
Paige, S. A. 535
Pearce, J. A. 41, 502
Pedelty, Jr., Jno. 429
Pederson, A. J. 535
Peterson, Jno. 343
Phillips, D. T. 333
Phillipson, Geo. N. 649, 790
Pizer, C. S. 553
Pollock & Sons, Jas. C. 408
Pond, Jos. E. 719
Posey, L. 600
Pouder, W. S. 359, 431, 464, 495, 527, 560, 592, 624
Powelson, Lee, 278
Pratt, E. L. 529, 632
Pringle, Allen, 72
Prussing, C. F, 119
Pryal, W. A. 84, 311, 397, 438, 500

Quimby, W. R. 377

Rader, Math. 725
Rackleff, Geo. 601
Reed, L. 601

Reed, L. G. 566
Reepen, H. 268, 330, 554, 600
Reger, J. K. 503
Renk, W. F. 536
Ressler, J. B. 460
Reynolds, A. 56
Reynolds, C. 405, 489, 790
Rhees, R. T. 118
Rice, B. E. 42
Richardson, F. H. 202
Rickel, W. 663
Riley, C. V. 213
Robbins, Geo. F. 497, 821
Robertson, S. M. 278
Robinson, C. J. 56, 406, 693
Rockwell, F. F. 585
Rogers, A. H. 535
Rollins, I. W. 120
Root, E. R. 51, 143, 660
Rupp, Jno. H. 278
Russell, Ira W. 532
Russell, R. S. 431
Ryan, Jno. M. 152

Sanford, A. C. 247
Sayler, Dr. Albert, 631, 728
Schumacher, A. 87
Schwaner, L. 681
Scott, H. W. 274, 424
Scratch, H. N. 86, 217, 363
Secor, Eugene, 81, 234, 633, 658
Seeley, H. M. 376
Seiler, John M. 696
Seelman, G. E. 808
Shaffer, J. 375
Shank, Mrs. A. M. 247
Shaw, Thos. 394
Shigley, D. P. 216
Shiver, W. 374
Shultz, R. A. 664
Simpson, A. A. 375
Smith, Edw. E. 365, 727
Smith, E. J. 504
Smith, Mrs. F. C. 664
Smith, J. P. 402, 694
Smith, L. B. 141
Smith, L. K. 718
Smith, S. A. 266
Smith, S. B. 311, 598
Snow, M. S. 217
Soule, W. H. 694
Spitler, Geo. 183
Springer, Allen, 280, 503, 554
Staininger, N. 184
Stephens, F. 377
Stewart, J. G. 280
Stickney, L. A. 279
Stockwell, Geo. A. 759
Stolley, Wm. 338, 471
Stone, Jas. A. 86, 169, 239, 298, 328, 712
Stoner, W. E. 312
Stout, S. 537
Strehle, F. 120
Strickland, Chas. L. 77
Sturtevant, E. H. 249
Subscriber, 618, 778
Sundermann, John, 88
Swaner, Jno. C. 821

Tarey, Chas. 23, 633
Taylor, B. 566, 721, 818
Taylor, R. L. 16, 89
Taylor, Sam'l, 714
Taylor, W. P. 344
Templin, L. J. 436
Theilmann, C. 73, 217, 407, 597
Thies, Chas. H. 280
Thompson, A. M. 409
Thompson, F. L. 533
Thompson, R. W. 205, 396
Thorstad, J. E. 246
Trego, S. F. 728
Tubbs, M. W. 786
Tufts, Dr. A. W. 340
Tyrrel, A. C. 657

Utz, Sam'l. 185
Unterkircher, A. 536

Vance, M. D., J. W. 280
Verhaalen, Theo. 780

Walker, F. N. 403
Wallace, Thos. S. 632, 759
Wallenmeyer, J. C. 333, 586
Ward, Jno. A. 459
Ware, S. C. 471
Watkins, S. L. 89, 816
Wayman, L. 248
Wheeler, Geo. S. 278
Wheeler, T. W. 278, 809, 820
Whipple, E. B. 622, 653
White, Chas. 471
White, H. C. 777
White, W. H. 395
Whiteside, R. F. 151
Whiting, Telah C. 55
Whitmer, Dan'l, 55
Wiedemann, F. W. 342
Wilcox, F. 231
Wilcox, L. 521
Wiles, M. L. 600
Wiley, H. W. 179
Wilkins, C. W. 336
Williams, A. L. 246, 439
Williams, Rufus, 759
Willis, Wm. 344
Wilson, D. C. 457
Wilson, Emma, 107
Wilson, Sam. 375, 690
Winters, Geo. L. 504, 553
Wood, W. R. 428, 617
Woodward, Robt. B. 791
Wooldridge, J. L. 116
Wright, C. A. 87
Wright, E. R. 437
Wright, W. D. 633

Zillmer, F. F. 437
Zinn, C. C. 57, 696

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

Samantha at Saratoga is one of the best books ever written. See page 773 of last number of the BEE JOURNAL. We offer it free to those sending us three new subscribers, and also give to each of the three subscribers a free copy of the premium edition of "Bees and Honey." This is a most liberal offer, and should be taken advantage of now. It expires Aug. 1st.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, June 24th, 1893:

CHICAGO, ILL.—There is not much movement in comb honey. Prices range at from 12@16 and 17c., all good grades bringing 15@17c. A few cases of the new crop have arrived and brought the top prices. Beeswax is very steady at about 25c. Extracted honey is moving very slowly at from 6@8c.
R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

CINCINNATI, O.—New extracted has commenced to arrive lively, and is in fair demand at 5@8c. There is a slow demand for comb-honey, and no choice on our market; prices nominal.
Beeswax—Demand good, at 22@25c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—New crop of extracted is arriving freely. Market is quiet and demand limited. Fancy grades sell at from 7@8c.; common to fair, at from 60@70c., as to body, color and flavor. Beeswax, 26@27c.
H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality, 1-lbs. Beeswax is neglected at 22@23c. S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 6@7c. No beeswax on the market. H. & B.

BOSTON, MASS.—Honey is selling slow and prics are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand. B. & R.

ALBANY, N. Y.—Our honey market is dull at present. There are some receipts of new extracted, but no reliable price established yet. Beeswax is more plenty, at 27@28c. for good color. H. R. W.

MINNEAPOLIS, MINN.—There is quite an active demand this week for honey, especially white comb-honey in 1-lb. sections. Dark is very slow sale. Stock on hand in this market is very light. Receipts have not been enough to supply trade during the past 10 days. Fancy white conb honey, 18@20c.; No. 1 white, 17c.; fancy amber, 16c.; No. 1 amber, 14c.; fancy dark, 12c.; No. 1 dark, 10c. Extracted California 60-lb. kegs, 9c. Beeswax, unsalable. J. A. S. & Co.

Amerikanische Bienenzucht is the name of a bee-book printed in the German language, which we now have for sale. It is a hand-book on bee-keeping, giving the methods in use by the best American and German apiarists. Illustrated; 138 pages; price, postpaid, $1.00. It is just the book for our German bee-keepers. We club it with the BEE JOURNAL for one year, for $1.75.